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Configuration — Devices

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New in this release

The information in this document applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Features

See the following sections for information found in this document.

Dynamic Device Configuration

Although Dynamic Device Configuration is not available for BCM50 Release 5.0, the Telephony Resources screen has been aligned with the BCM450 version. For more information about Dynamic Device Configuration, see Dynamic Device Configuration for BCM450 (page 16).

Call logs

The number of spaces for call logs has been increased to 1000 for BCM50 systems, and to 3000 for BCM450 systems. For more information about configuring call logs, see Configuring call logs (page 132). For more information about increased scalability options for BCM50 and BCM450 systems with Release 5.0, see *Nortel Business Communications Manager 5.0 Configuration—System* (NN40170-501), or *Nortel Business Communications Manager 5.0 System Overview* (NN40170-103).

Find Me/Follow Me

Find Me/Follow Me allows simultaneous ringing of up to five different external destinations. Users and administrators can configure these destination numbers. You can configure Find Me/Follow Me based on the time and day by configuring schedules. Using Find Me/Follow Me, you can pick up a call either at your primary extension (your desk phone for example) or at one of the five external destinations, such as a cell phone, your home phone, or another phone. When you answer the call at one destination the other alerting calls are disconnected. By doing this, the Find Me/Follow Me feature reduces the chance of missed calls. You can then transfer the answered call back and forth between your desk phone and other devices in your list of Find Me/Follow Me external destinations. For more information about configuring Find Me/Follow

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Me, see *Nortel Business Communications Manager Find Me/Follow Me Administration Guide* (40010-678) and *Nortel Business Communications Manager User Guide* (NN40010-118).

Professional Call Recording

The professional call recording feature records a call from the time that you request to record the call until the call ends. The feature supports recording a conference call hosted or joined by a DN. For more information about Professional Call Recording, see *Nortel Busines Communications Manager 5.0 Configuration—Telephony* (NN40170-502), and *Nortel Business Communications Manager 5.0 Planning and Engineering* (NN40170-200).

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Introduction

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

This guide describes how to configure and assign features to Nortel Business Communications Manager (BCM) 5.0 telephony devices through Telset and through Element Manager.

The concepts, operations, and tasks described in this guide relate to the BCM 5.0 software. This guide provides task-based information about how to assign features and provide basic programming for the Business Communications Manager.

Use Element Manager, Startup Profile, and Telset Administration to configure various BCM parameters.

In brief, the information in this guide explains:

- global telephony settings
- steps to configure DNs
- product features and how to assign them

The BCM 5.0 system provides private network and telephony management capability to small and medium-sized businesses.

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- System parameter configuration (page 37)
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- External Hunt Group calls monitoring (page 89)
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Device configuration overview

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

This section gives an overview about configuring and assigning features to telephony devices through Telset and through Element Manager.

Navigation

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- Features and applications (page 16)
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- Call information (page 24)
- Feature configuration: calling features (page 25)
- Special features for sets (page 26)
- System-Wide Call Appearance (page 29)
- Set Template Programming (page 32)

Configuration methods

You can configure devices through Business Element Manager in different ways. Two of the device configuration methods are Dynamic Device Configuration (DDC) and Set Template Programming.

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Dynamic Device Configuration for BCM450

Attention: Dynamic Device Configuration method is applicable only to BCM450.

The BCM450 locates and assigns DNs and line numbers dynamically, as required, until either all hardware administered to a system is populated with the necessary DNs and line numbers or the system reaches maximum capacity. When you install a telephony device or hardware component BCM450, it must be configured to assign the necessary DNs/Lines and associated resources to make that device operational. Assigning DNs on an as-needed basis provides much more flexibility for configuring access/line-pool/routing codes.

With DDC, the Location of a device is independent of the Bus value associated with a device. In Element Manager devices are not indexed by Bus. They are listed and indexed by a Location. For example, an MBM in Location “Main MBM 1” may get assigned Bus 10 in one configuration, but subsequent changes to the configuration may result in “Main MBM 1” being assigned Bus 11 (or any other valid Bus value). The Bus assigned to a device is now one of several resources that a device receives during configuration to become operational.

While BCM50 does not support DDC, the Telephony Resources screen has a similar look and feel to the BCM450 version. Since MBM DIP switches are always set to the On position, there is no DIP switch column on the BCM50 screen, and the totals of each resource type are fixed (for example, 32 IP Sets, 64 Appl DNs, and so on). The Configure and Deconfigure buttons are not present on the BCM50 screen.

Features and applications

BCM supports the complete range of IP telephony features offered by existing BCM products as well as many applications provided on the existing BCM platforms.

Applications overview

BCM 5.0 supports the following applications

- Voice Messaging for standard voice mail and auto-attendant features
- Unified Messaging providing integrated voice mail management between voice mail and common e-mail applications
- Fax Suite providing support for attached analog fax devices
- Voice Networking features

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- LAN (computer telephony engine) CTE
- IP Music
- Intelligent Contact Center
- Meet Me Conferencing
- Find Me/Follow Me
- InTouch
- Professional Call Recording

System feature codes

The BCM 5.0 provides a complete list of the feature codes that can be accessed from digital and IP telephones. For more information about feature codes see, Features: by name and activation code (page 207).

Button programming feature (page 211) provides a list of the features that are programmable under the DN record Button Programming heading.

Lines and numbers

Lines are the channels that carry telephony signals into the system, within the system, and out of the system. A line can be assigned to a DN.

DN records parameters

The DN record defines the specific function of each telephone within the system.

The following paths indicate where to access DN record parameters in Element Manager and through Telset Administration:

- Element Manager: Configuration > Telephony > Sets > All DNs
- Telset interface: **CONFIG>Terminals and Sets

Other areas of programming that affect how each telephone functions include:

- system settings
- telephone model

The DN records panel is a multilayered panel with multiple tabs. Although all panels show up for all models, not all models require configuration for all panels.

Analog set customization

Analog telephones and devices have a limited feature set. They do not have programmable buttons, access to remote voice mail systems, or user preferences. These telephones also do not support Answer DNs.

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As well, specific ATA settings are required. These settings depend on how the telephone is connected to the system (ASM, ASM8+, or ATA).

IP phone line configuration

IP telephones have a very similar DN configuration to digital telephones.

There are several models of i-series telephones, and each telephone has a different number of programmable buttons. Refer to the Nortel i-series telephone user cards for details.

Proactive Voice Quality Monitoring

The following path indicates where to set PVQM thresholds in Element Manager:

- Element Manager: **Administration** > **Telephony Metrics** > **PVQM** > **Threshold Settings Panel**

PVQM monitors and reports on call quality in process, not just after the end of the call. This enables more timely and accurate resolution of potential call quality problems, especially on more lengthy calls. A call quality threshold is set so that an exception is reported if the quality drops below a configurable value.

PVQM is fully supported on 1210, 1220, 1230, 1110, 1120E, and 1140E IP phones and on Phase 2 of the 2000 series IP sets. Phase 1 of the 2000 series IP sets support only the following PVQM metrics: packet loss, inter arrival jitter, and round trip delay.

Hot desking IP phone configuration

You can transfer your IP telephony configuration temporarily from one IP telephone to another using the Hot desking feature. This feature is described in detail in the Telephone Features User Guide (NN40020-100). You use FEATURE *999 to enter the feature. To perform Hot desking, you are prompted for a password, which is specified at the telephone, before you can complete the task.

Default memory button programming for sets

Button programming allows you to program the buttons on a telephone with internal and external autodialers, and with programmed feature keys. Assigned line, Hunt group designator, answer DNs buttons, intercom buttons, and handsfree buttons cannot be changed through button programming. These latter features appear in read-only format on the Button Programming table. During startup, the installer chooses one of the available telephony template (PBX or DID). Each profile has a default features set that assigns automatically to the programmable buttons on telephones plugged into the system, unless you configure different settings in the DN record.

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Rules of default button assignment

The following are the rules of default button assignment:

- Line and intercom buttons assigned by default templates can be changed in programming.
- Handsfree and Answer DN buttons are not assigned by default. When these features are programmed, however, they are automatically assigned to specific buttons.
- Telephones can have a maximum of eight intercom buttons. When Answer DNs are assigned, they appear above the handsfree button, if there is one, at the bottom right-hand corner on the telephone. The model 7000 and 7100 digital phones and analog telephones are automatically assigned two intercom lines.
- Default line button assignment starts on or near the top of the left column, and descends.
- Default button programming does not necessarily provide default line assignments.
- Line assignments can be moved by the user to more convenient buttons.

Telephony features

Feature programming has two aspects. Some features are set for all telephones and devices, and some features are set on an individual basis in the DN record. These features are available only on digital and IP telephones. You can block the user from using these feature keys by setting the set lock for the telephone to Partial or Full (**Configuration** > **Telephony** > **Sets** > **Active Sets** > **Restrictions** tab > **Set Lock drop-down list**).

Call answer features

If a call comes into a designated line button, you press that button to answer the call. (This feature is not available on all telephones.)

If there are no line buttons on your telephone, or the call rings but no line buttons light up, choose one of three ways to answer a call at your telephone:

- lift the receiver.
- press the Handsfree button and speak through the external speaker.
- answer through a headset.

Calls can also have special ring tones, depending on distinctive ring values for the lines and the telephone.

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Handsfree and handsfree answerback

Enable Handsfree (HF) to use the telephone speakers or a headset. Enable HF answerback to allow users to answer a call without lifting the handset, or to use a headset.

This feature is set on a per-telephone basis through Element Manager.

The handsfree and handsfree answerback feature is not available on telephones with no speakerphone capability (2001, 7000, 7100).

Call queuing

This feature allows you to answer the next incoming call on your telephone, based on call priority. Call priority is based on waiting time. The caller that has waited the longest is answered first.

To use call queuing: Press FEATURE 801.

Directed pickup

This feature allows a user to answer any ringing telephone in the system.

Enter FEATURE 76, and the DN of a ringing telephone, to answer any telephone in the system.

By default, this feature is enabled.

To disable the feature, in Element Manager (Configuration > Telephony > Global Settings > Feature Settings), clear the check box.

Pickup groups

This feature allows the user to answer calls on another telephone in the same pickup group.

Enter FEATURE 75. The external call that has been ringing the longest is answered first.

Trunk answer

This feature is only active when a ringing service schedule is running. It allows a user to answer a ringing call in any area in the system, from any telephone in the system. The line being answered does not have to appear, or ring, at the telephone being used to answer the call.

Press FEATURE 800.

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Answer DNs

Program a telephone to provide automatic call alerting and call answering for other telephones in the system. The DNs of the other telephones are referred to as Answer DNs.

Call answer privacy features

To maintain your privacy, or if you do not want to be disturbed, you can choose not to answer a call, or you can use one of the features described below. If you choose not to answer the call, the Delayed ring transfer setting determines how many rings occur before the call is transferred to the prime telephone. (**Configuration** > **Telephony** > **Global Settings** > **Feature Settings**).

Automatic privacy enable

When you have lines assigned to more than one telephone, anyone with the line appearance can answer a call, or join a call in progress. To provide exclusive access for a user, you can program privacy on a line, in which case, only one person at a time can use the line. (This does not apply to target lines.)

You can program some lines to make a call private automatically.

Do not disturb (DND)

Forward your calls to a designated prime telephone, when there is no other telephone assigned with the line. An internal caller receives a display indicating that the telephone has Do Not Disturb active. They can either call back, or use the Priority call feature to override the feature.

Intrusion controls

If your system is part of a private network that uses the Meridian call attendant on a centralized voice mail system, the attendant can use the break-in feature to interrupt a call, regardless of any other settings on your line. The exception is if you have a higher intrusion priority than the attendant. If this is the situation, the attendant is forced to camp the call at your telephone, or redirect the call elsewhere in the system.

This feature is set on a per-telephone basis.

Call hold features

After you answer a call, you can transfer the call, look up some information, or answer another call. Use the Hold feature to place a call on hold.

Call hold

Place a call on hold by pressing HOLD.

If you have system wide call appearance (SWCA) keys defined, this can also place the call on a SWCA key, and allow others to answer the call. Refer to the SWCA section for more details.

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To retrieve the call, press the held line button, or press the Hold button a second time if there is no line button.

There is no system programming for this feature: it is always active if the telephone has a Hold button.

Automatic call hold (autohold)

A line or the telephone can be programmed to automatically place an active call on hold while answering another call, or placing a call.

Model 7100 and 7000 telephones, which do not have line keys, also use the HOLD key to toggle between active calls.

FEATURE 73 activates this feature. FEATURE #73 cancels the feature.

Exclusive call hold

You can put a call on Exclusive Hold so that the calls can be retrieved only at your telephone.

Parking and transferring calls

Calls coming in can be transferred after they are answered, or automatically transferred if they are not answered at the target telephone.

Call transfer

When you answer a call, you can transfer the call either to a telephone within the system, or to a telephone external to the system, such as a receptionist on another system in a private network.

Telephones which do not use call forward to a voice mail system, can be programmed to forward unanswered external calls to a designated prime telephone.

You may not be able to transfer a call on an external line to an external telephone, depending on the capabilities of the lines.

Line redirection

When you answer a call, you can redirect the line to an external number. When redirected, all incoming calls on that line are directed to the external number. You can configure a tone to sound on your telephone when a redirection occurs.

Lines can also be redirected through system programming. In this case, redirection can be removed only through system programming.

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Call forward

You can set up a telephone to send calls to another telephone automatically, or to a voice mailbox if the telephone is not answered, or if it rings busy. This feature can be programmed from the system for each telephone, as well as at the telephone.

Call forward to GATI and GATM trunks from an external node is not supported in Poland, Ireland, Australia, UK, or New Zealand market profiles.

Camp-on

Use this feature to reroute an answered call to another telephone, and to park the call at the other telephone if all lines to the telephone are busy. The target telephone displays a message, indicating a camped call, and a tone occurs. When a line becomes available, the call is uncamped and transferred to the available line.

Centralized voice mail, Meridian: If your system is part of a private network that uses the Meridian call attendant as part of a centralized voice mail system, the attendant can use camp-on to camp a call on any telephone in any system on the network.

Call park

You can park a call on the system that can be accessed from any telephone on the system.

Calls are parked on a three-digit park code. The first digit of the code is a system access code. The last two digits range from 01 to 25. (FEATURE 74)

You can also set a delay period for when the call returns to the telephone from which it was parked; under **Configuration** > **Telephony** > **Global Settings** > **Feature Settings**. You can also determine the order used to assign the codes (Park mode).

Callback

When you direct an answered call to another telephone, the system monitors the call to ensure it is answered. If no one answers the call within a set length of time, the system returns the call to you.

To set the number of rings before the call is transferred back:

Click **Configuration** > **Telephony** > **Global Settings** > **Feature Settings**, in the Timers subpanel, select the number of rings from the Transfer callback timeout drop-down list.

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Call sharing, call park, and SWCA buttons

System wide call appearance (SWCA) keys allow you to control call park and retrieval features on any type of line across the local system. These features expand the BCM call park and call retrieve features by providing visual indications of the status of any call parked on an SWCA button with indicators. The calls can also be controlled by directly entering the SWCA feature codes.

You can use SWCA programming to define logical groups of telephones. Each group can be assigned a set of the SWCA codes, which allows them to pass calls within the group. Each telephone in the group also displays the current status of the call, so users can determine which calls are being handled.

Call information

You can view, or track, call information using these features:

- Malicious caller ID (MCID) (page 24)
- Call log (page 25)

Call display information

If the telephone is programmed to allow CLID, the telephone displays the name, number, or line name of a ringing or active call. If the call is redirected, you can view redirection information.

Call duration timer

Briefly displays the approximate length of your current or most recent call.

Activate feature: FEATURE 77

Time and date display

Static display changes the first line of the display to show the current time and date (based on system time).

- **Activate feature: FEATURE 806**.
- **Cancel feature: FEATURE #806**

Active call display briefly displays the time and date.

- **Activate feature: FEATURE 803**.

Malicious caller ID (MCID)

This feature records caller information at the central office for the last external call on the active ETSI ISDN line. This feature must be available from your service provider before you can activate it in your system.

If this service is active on the line, you must press **FEATURE 897** within 30 seconds after a caller hangs up, and before you hang up.

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Enabling the feature on the system:

Configuration > **Telephony** > **Dialing Plan** > **Private Network** > **ETSI** > **MCID**

Call log

If your system has the appropriate equipment, and you subscribe to the call information feature supplied by your service provider, you can record information about calls received on an external line. The line does not need to be assigned to the telephone that receives the call in order for the information to be logged, nor does an assigned line need to be a ringing line to log a call. ISDN service packages that come with calling line identification (CLID) can supply the same feature.

LogIt

Store caller information for your current call in your Call Log.

Activate feature: FEATURE 813

Feature configuration: calling features

Use the following features to configure the system and to place outgoing calls.

Set-to-set messaging

The message feature is a standard system feature and has no specific programming. However, some telephones and remote voice mail systems can require programming to ensure that message waiting indicators (MWI) perform as expected.

The Messages feature uses a message waiting list to keep a record of your internal messages and your (external) voice mail messages. To keep a record of external voice mail messages, you must have access to an external Voice Messaging service with visual message waiting indication and a BCM digital telephone.

Set-to-set display messaging

This feature allows you to leave a message on the display of another telephone in your system, or to analog telephones connected to an Analog Station Module (ASM/ASM8+). The Messages feature indicates if you have any messages waiting.

Paging and paging constraints

If you are unable to reach a person by telephone, or you want to deliver the same message to more than one person, use the page feature.

This feature allows you to make page announcements in various ways, depending on the audience you are trying to reach.

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Button programming

The Button Programming and CAP/KIM Button Programming tab panels allow you to program the buttons on a telephone with internal and external autodialers, and with programmed feature keys.

You also can use these panels to remove programming from a button, making it blank.

Assigned lines, Hunt group designators, Answer DNs buttons, Intercom buttons, and Handsfree buttons cannot be changed through these panels. They appear in read-only format.

Special features for sets

You can program telephones and devices to perform specific feature services, such as dialing an emergency number as soon as the handset is picked up, or acting as the control set for the system schedules.

Hotline telephone

You can define a telephone that automatically dials an emergency or direct number when the handset is lifted.

Hotline telephone setup

Configuration > **Telephony** > **Sets** > **Active Sets** > **Capabilities and Preferences** tab > **Preferences** - bottom tab

Control telephone

The control telephone allows you to control other telephones in the system by turning service schedules off and on.

Control telephone setup

You can define a control set for lines, individual telephones, and for hunt groups.

Configuration > **Telephony** > **Lines** > **Active Physical Lines** > **Control Set column**

Configuration > **Telephony** > **Sets** > **Active Sets** > **Capabilities and Preferences** tab

Supervisor telephone

The silent monitoring feature enables specified two-line display telephones to be used to monitor Hunt group and Contact Center operators. You can specify whether the system sounds a tone before breaking into a call or whether the break-in is silent. Display prompts on the supervisor telephone allows the supervisor to unmute or move from user to user.

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Supervisor telephone overview

The following path indicates where to set up silent monitoring parameters in Element Manager:

Element Manager: **Configuration** > **Telephony** > **Global Settings** > **Advanced Feature Settings**

Silent monitoring

The features in this dialog box provide the parameters that determine how you can use supervisor terminals on your system to monitor Hunt group members.

Hospitality services phones

Use the Hospitality panels to set up room telephones, and determine how they function. Once the system is set up, you can change settings through the telephone using the Desk password. Service personnel change the service state of the room using the Room condition password (optional).

Central answering position

A CAP (Central Answering Position) station acts as a central answering and monitoring point for a group or a business.

CAPs become enhanced CAPs (eCAPs) when you identify the telephone DN under the CAP/KIM assignment. You can configure a maximum of 12 CAPs as eCAPs on the system.

All CAPs can be programmed with quick dial numbers that allow the person at this station to monitor and answer call traffic into the group. If you program the CAP to be an eCAP, lines, hunt group appearances, and line appearances can also be moved to the module.

Central answering position overview

The following paths indicate where to set up a CAP in Element Manager and through Telset Administration:

- Element Manager: **Configuration** > **Telephony** > **Global Settings** > **CAP Assignment**
- Telset interface: ****CONFIG** > **System prgrming** > **CAP/KIM assgn**

Prime line

The prime line is the DN that the line rings when the system cannot ring the intended DN.

Configuration > **Telephony** > **Sets** > **All DNs** > **Capabilities and Preferences**

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Direct dial telephone feature

The direct dial telephone is the telephone that system users can dial with one digit, the direct dial access code. A receptionist telephone is one example of this. This telephone is usually the control telephone for system scheduling. You can create up to five direct dial telephones. However, they all respond to the same direct dial access code.

Programming

Configuration > **Telephony** > **Dialing Plan** > **General**

Configuration > **Telephony** > **Sets** > **All DNs** > **Capabilities and Preferences** > **Capabilities**

Extra direct dial set: **Configuration** > **Telephony** > **Scheduled Services**

Enhanced CAP station

Central answering position (CAP station): A CAP can consist of a 7316E digital phone plus one to four eKIMs (key indicator modules), or one to nine OKIMs. When the CAP is assigned under CAP/KIM assignment in the system, the CAP becomes an enhanced CAP (eCAP), and the modules become known as eKIMs. The system supports a maximum of 12 eCAPs.

eCAPs can:

- monitor system telephone status.
- answer external calls on line buttons.
- monitor Hunt group appearances.
- support multiple appearances of a target line.
- answer external calls on up to 112 lines on a KIM (120 lines on a legacy CAP), and extend calls to other BCM telephones.
- provide extra memory buttons for the 7316E digital phones.

Telephones with KIMs that are not configured in system programming allow only memory button programming on the modules. In this case, the KIM is known as an OKIM (ordinary KIM). There is no specific limit for the number of CAPs using OKIMs for the system, except from a call processing point of view.

Legacy CAP: A 7324(N) plus one or two CAP(N)s (Central Answer Position modules)

Hunt groups

The Hunt Groups panel allows you to set up call groups that are assigned a common hunt group.

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Use this feature to group your Contact Center operators so you can target specific types of calls to specific groups. As well, you can define how calls enter the group, so you can control workload based on operator requirements. For more information, see Hunt group feature operation (page 223).

The following paths indicate where to configure hunt groups in Element Manager and through

Telset Administration:

- Element Manager: Configuration > Telephony > Hunt Groups
- Telset interface: **CONFIG > System prgrming > Hunt GroupsDN for incoming calls. The calls then are distributed to the member telephones.

Ring groups

If you set up call scheduling on the system, you can define groups of telephones into ring groups. This allows you to specify schedules where Trunk Answer can be used within the ring group to answer incoming calls, even on telephones that do not have that line specifically assigned. You can also define a second direct dial set for a ringing group.

Ring groups and Contact Centers

Refer to the Contact Center documentation for information about setting up this feature.

System-Wide Call Appearance

The System-Wide Call Appearance (SWCA) feature enables you to park incoming and outgoing calls on your BCM and, at the same time, provides call appearance to a group of telephones. Using this feature frees the line used by the call, and enables another user to pick up the call at any telephone that has been assigned the same SWCA keys.

Attention: Your telephone must have a free intercom key to pick up SWCA calls.

SWCA overview

Labelling your telephone keys provides identification about which code is applied to which key. (See diagram below.)

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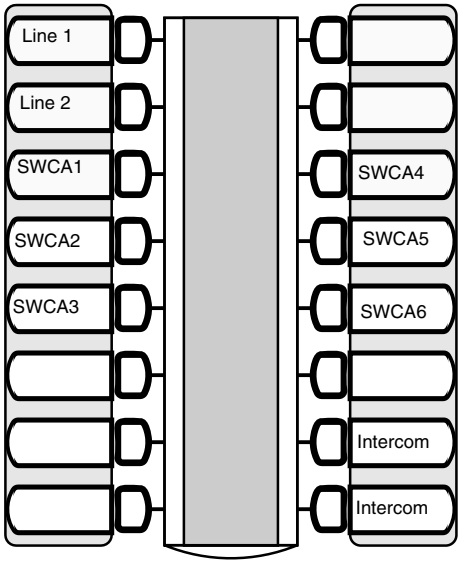
Assigning SWCA keys



If possible, assign the same set of buttons to the same SWCA user codes for all telephones in the call group.
You can use any name for the keys, but a reference to the SWCA code saved on the key is useful.

Indicate the label for your SWCA keys

Telephone key #	SWCA code
	FEATURE *521
	FEATURE *522
	FEATURE *523
	FEATURE *524
	FEATURE *525
	FEATURE *526
	FEATURE *527
	FEATURE *528
	FEATURE *529

Use of Hold with SWCA keys

If a call does not automatically park on a SWCA key when you press HOLD, it means the call is parked only on your telephone on the line on which the call entered. To make the call available to the group, you must unhold the call (press HOLD), then press a free SWCA key. The call is parked on that SWCA key and the line on which the call entered becomes free.

Temporarily parked calls

someone picks up the call. In this case, if the person who answered the call wants to repark the call, they must use one of the manual methods described above to repark the call on a free SWCA key.

The system can be configured to retain the call on the same SWCA key for the duration of the call, which is the period until someone hangs up, regardless of how many times the call is answered and reparked.

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Key availability and programming

If all your SWCA keys have assigned calls, and you receive another call, you can:

If you assign a call to a code that does not have an appearance on your telephone, use Page, Voice call, or Message to notify the group or another person that there is a call waiting, and on which code it was parked.

SWCA-feature interaction

If you are not sure which call to retrieve, you can use one of the following codes to find the longest parked call or the most recently parked call.

- FEATURE *537 retrieves the oldest SWCA call. The indicator on all telephones in the group becomes solid, indicating an active call. These codes only work for telephones that have SWCA keys defined, and the system only searches across the range of codes that are assigned for that telephone.
- FEATURE *538 retrieves the most recent SWCA call. The indicator on all telephones in the group becomes solid, indicating an active call.

Timed out SWCA calls

If a call remains parked and unanswered on a SWCA key for a pre-set period of time (the Call Park timeout timer), the call unparks from the SWCA key and rings again at the telephone from which it was last parked.

Outbound calls

You also can park out-dialed calls on a SWCA key. If your system is set up to automatically assign calls to a SWCA key, the call will assign to a key as soon as it is answered. Otherwise, during your call, you can press a free SWCA key or HOLD to park the call on a SWCA key. This makes the call available to other users in the group and it frees up your intercom or line.

SWCA and auto hold

Your telephone must be set to have Full Auto-hold so that a call automatically gets placed on Hold if you answer a second call. If your telephone does not have Auto Hold on, use FEATURE 73 to change the setting.

SWCA and call transfers

If you transfer the call to a telephone that does not have the same SWCA keys assigned, the call will disappear from the SWCA key on your telephone when the call transfers. If the call needs to be reassigned to your group, the person who answered the call enters a SWCA control code that is assigned to your group, to return the call to a SWCA designation at your telephone.

SWCA and conference calls

A conference call cannot be parked on a SWCA key.

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You cannot conference a call that is parked on a SWCA key until it is unparked.

Set Template Programming

Element Manager administrators can use the Set Template Programming feature to manage data retrieval, presentation, and data application for multiple sets by propagating the information and modifications through the template. You can combine a number of set parameter settings into a template. You can then assign those parameters to appropriate sets on the BCM. You can use the template import and export feature or the BCM Backup and Restore feature to achieve template portability. From one system, you can perform a backup and select the template components you want to transfer to another system. You then perform a restore of that back up and select those components on another system.

Set template administration

The set template feature provides the graphical user interface (GUI) for creating, changing, and deleting a template. Use the template to quickly assign the same parameter settings from one set to several sets at the same time. The parameters that you can configure using a set template are

- Line Parameters
  - — Type of Prime Line
  - — Number of Intercom Buttons
  - — Line Pool Access
  - — Meet-Me Conference
- Set Capabilities
  - — DND on Busy
  - — Handsfree Activation Type
  - — Handsfree Answerback
  - — Pickup Group
  - — Page Permission
  - — Page Group
  - — Direct Dial Assignment
  - — Priority Call Setting
  - — Autohold for Incoming Page
  - — Auxiliary Ringer Setting
  - — Call Redirect Setting

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  - Redirect Ringing Setting
  - Receive Short Tones
  - Silent Monitor Supervisor
  - ATA Setting
- Call Forward Settings
  - Call Forward No Answer Delay
  - Call Forward On Busy
  - Hotline Number Access Settings
- User Preferences
  - Set Model
  - Dialling Options
  - Language
  - Contrast Level
  - Ring Type
  - Button Settings for Phone
  - Keep DN Alive (IP Sets)
  - Set Restrictions
- Voice Mailbox provisioning

Template-to-set assignment

Assign a set template to specific sets, or DNs, to propagate changes to those sets through template updates. When you assign a template to a set, you create an association between that template and that set. Changes to provisioning data are automatically propagated to the set through the template.

If you assign a set to a template, and you use set-based administration to modify a supported parameter, the system automatically disassociates the template from the set. You are notified of this disassociation through the logging system. This is done to ensure that all sets assigned the same template remain consistent in their configuration.

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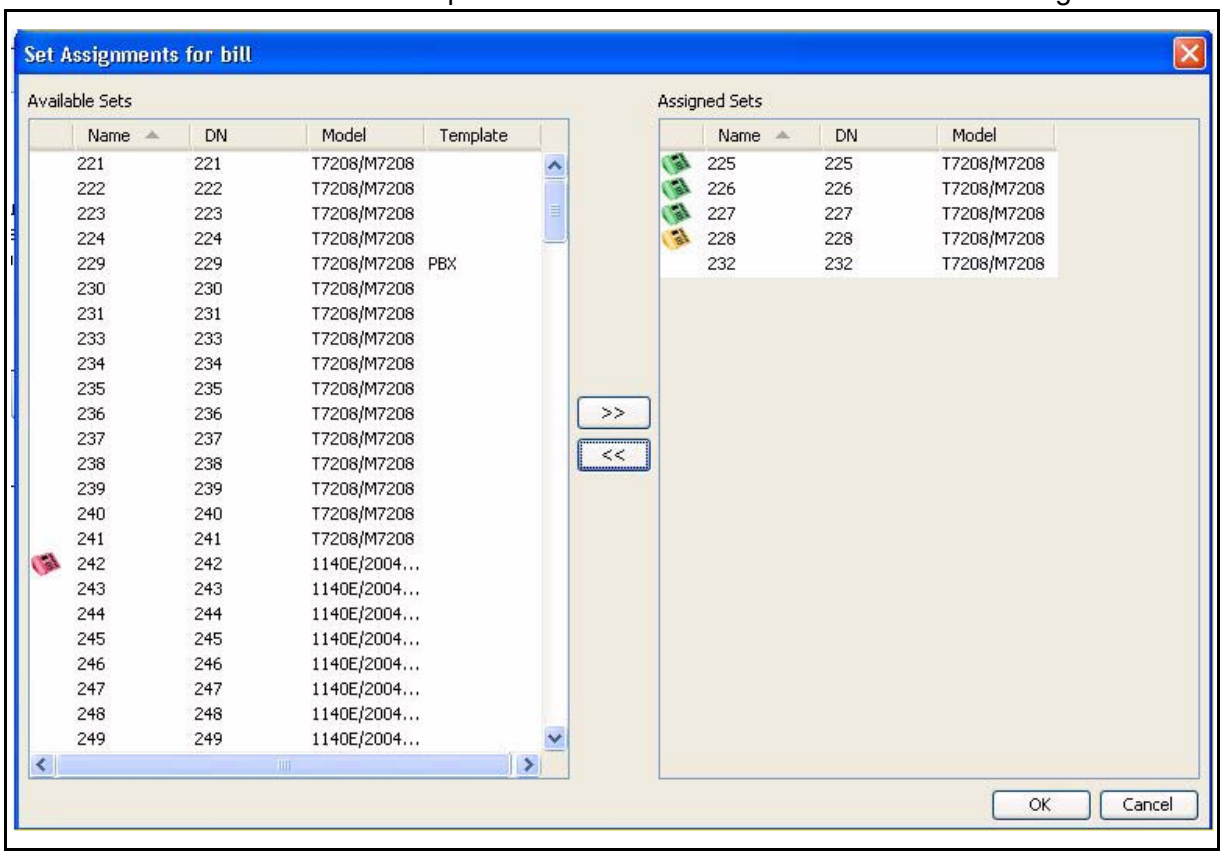
You can assign, unassign, and reassign sets through the Set Assignments panel. When you assign, unassign, or reassign sets to a template, a color-coded telephone icon appears beside the DN of the modified set. A green icon indicates a newly assigned set. A yellow icon indicates a reassignment of a set from one template to another. A red icon indicates an unassignment.



Template import and export capability

You can save a template to a file from one BCM and then import that template to another BCM. This removes the need to recreate identical templates manually on each BCM to be able to configure sets across all BCMs in the network in the same way.

Templates are platform specifc, so the import-export capability is possible from a BCM50 to a BCM50 or from a BCM450 to a BCM450, but not possible from a BCM50 to a BCM450 or vice-versa.

Set template creation

You can create templates in three ways:

- as an original template
- from a set (DN)

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- from an existing template, including the default DID or PBX templates

Set association

You can associate a set with a template. Administrators can modify a set template using Element Manager. After you modify a set template on the BCM 5.0, the changed parameters are applied to every set to which the template has been assigned.

Voice mailbox setup

You can create a voice mailbox for a set that is associated with a template to edit certain mailbox parameters and propagate those changes to all sets associated with the template. Not all mailbox parameters are available for you to edit through the set template. You can edit the following parameters:

- Page type
- Page zone
- Page retries
- Page retry interval
- Display in directory
- Enable Message Waiting Indicator
- Class of Service
- Outdial type
- Outdial line

When you assign a template to a set and you select the Create Mailbox check box, the system checks for an existing voice mailbox. If no mailbox exists, a new one is created. If a mailbox exists, the system applies the values you select in the Voice Mail tab to the mailbox. When you create a mailbox through a template, the mailbox number becomes the same as the DN.

If, after creating a mailbox, you deselect the Create mailbox check box, the system does not delete any mailboxes. The parameters no longer appear in the Voice Mail tab, however, to delete a mailbox, you must use CallPilot Manager. For details on how to delete a mailbox, see *CallPilot Manager Setup and Operation Guide* (NN40170-300).

Set and line renumbering

Use the Element Manager to quickly renumber specific parameters in the sets and lines configuration. The following list shows the parameters that you can renumber using a template:

- DNs
- Public OLI

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- Private OLI
- Target Line Assignments
- Public Received Digits
- Private Received Digits

You renumber parameters that are specific to lines or sets. Use the renumbering function to renumber set and line parameters.

When you renumber DNs, all related parameters, such as the DN name, also change incrementally. When you renumber DNs and the set has a voice mailbox, you have an option to renumber the mailbox together with the DN. In this case, the mailbox is deleted and a new one is created using the same parameters that existed for the old mailbox, with the exception of the extension. The extension field is set to the new DN created by renumbering process.

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System parameter configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can configure some basic system information for the Business Communications Manager (BCM 5.0).

System parameter configuration navigation

- Accessing system identification (page 37)
- Setting date and time (page 38)
- Synchronize system with an NTP Server or trunk (page 39)
- Setting clock control to local system (page 40)
- System scheduled services (page 40)

Accessing system identification

You can access the system identification panel to see information about the BCM system. The fields are read-only except for the Name.

Procedure steps

Step	Action
1	Click **Configuration > System > Identification**.
2	In the System name field, type a unique name for the BCM.

--End--

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Variable definitions

Variable	Value
Model	This is the system hardware release currently running on this device. <read-only>
System name	It is easier to manage a group of systems if each system is provided with a unique name or identification number. The system name must be a unique alphanumeric name that cannot begin with a number or hyphen (-), and cannot end with hyphen or period (.).
System software version	The version of software running on the BCM Main Unit.<read-only>
Country or region	This setting defines internal system settings for default values, available languages, and hardware and functional availability for a specific country or region. <read-only>

Setting date and time

How you set the Date and Time feature for your system depends on whether your system receives this information from a network server.

Step	Action
1	Click **Configuration > System > Date and Time**.
2	Select the fields you want to modify.
	--End--

Variable Definitions

Variable	Value
Date and Time Source	Set to NTP (Network Time Protocol) if the system uses a network server to determine the correct time and date. Set to Trunk to use time and date settings from a CO through an analog or IDSN line. Set to Manual if you want to be able to manually configure the time and date for your system. Default: Manual
Network Time Protocol Settings (Settings are active only if Clock Control Type is set to Network Time Protocol.)	
NTP server address	The IP address of the server that controls the network time and date.

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Variable	Value
Synch every (s)	The number of seconds specified to elapse between contacts with the NTP server. 1-XXXX: Number of seconds between contacts with the NTP server.
NTP security mode	Select whether the NTP security mode is secured or unsecured.
Raise alarm if clock differs by at least (s)	The number of discrepancy seconds specified that must occur before the system notifies you of a time difference from the NTP server, if the system automatically checks with the NTP server.
NTP key ID	ID for accessing the NTP. <1-65,535>
NTP key string	Control key corresponding to ID for accessing the NTP. <8 characters>
Current Date and Time	
Date and time	The current date and time. <specific date and time format>
Time zone	The appropriate time zone for the location of this system. The Time zone must be set for software updates to be applied.
Daylight Savings Time	The appropriate mode for the Time zone. Selected: The system automatically updates the time twice a year. Cleared: The system never updates the time for Daylight Savings Time. <read-only>

Synchronize system with an NTP Server or trunk

If the system is to synchronize with an NTP Server or trunk, check the following.

Step	Action
1	Click **Configuration > System > Date and Time**.
2	In the Network Time Protocol Settings pane, click **Modify**.
3	Set **Date and Time Source** to **NTP or Trunk.**
4	In the **NTP server address** field enter the IP address of the NTP server.
5	Set the number of seconds between synchronizations in normal operations (Synch Every).
6	In the bottom frame, ensure that the Time zone is correct for the location of the local system.

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7	If Trunk was selected in the Date and Time Source drop-down list, enter the year in the Year field.
8	Click **Ok**. Only time and date info are updated when NTP and Trunk settings are selected. Year information is not updated. You also have full control over time and date settings using telset admin even if NTP or Trunk are selected. Any setting applied through telset admin are over-written by the external source if NTP or Trunk are selected. Time zones need to be set for software updates to be applied

--End--

Setting clock control to local system

If you want the clock to be controlled locally, follow this procedure.

Step	Action
1	Ensure that **Date and Time Source** is set to **Manual.**
2	In the bottom frame, in the **Date and time** field, enter the month, day and year, hours and minutes and time of day.
3	In the bottom frame in the **Time zone** field, select the Time zone the system uses.
4	In the bottom frame, the **Daylight Savings Tim**e check box is selected or cleared automatically, depending on the time zone selected.

--End--

System scheduled services

Use scheduled services to control how calls are answered in off-hours (Ringing Groups), how calls are routed at various times of the day, and how restrictions are applied on lines and telephones at specific times of the day.

Navigation System scheduled services

- Configuring schedule name and timers (page 40)
- Configuring scheduled service (page 42)

Configuring schedule name and timers

The tables on this panel allow you to change the names of the schedules, and to determine when the schedules, which are set to automatically execute, are deployed. Any changes to these settings affect all services that use schedules.

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Procedure steps

Step	Action
1	Click **Configuration > Telephony > Scheduled Services**.
2	Select the fields you want to modify.
	--End--

Variable Definitions

Variable	Value
Schedules	
Schedules	Double-click the field, and enter a descriptive name for the schedule. <alphanumeric>
Schedule Times	
For each schedule, there are timers for the seven days of the week.	
Day	<seven days>
Start Time	This is the time when the schedule starts, and any previously-running schedules stop. Use a 12-hour or 24-hour format. If the entry is less than 12:00, the system prompts for a day period setting. 00:00 = schedule is off start and stop are the same = schedule runs for 24 hours start: 22:00/stop: 06:00 = schedule starts at midnight, runs until 6 a.m., then starts again at 10 p.m. (22:00).
Stop Time	This is the time when the schedule stops 00:00 to 12:00 a.m.-p.m./24:00

Job aid: Schedule services - settings and Schedules panel

The Scheduled Services - Settings and Schedules panel has three distinct areas for configuration.

The table in the top frame allows you to determine which schedules are active for the system for routing, restriction, and ringing schedules.

The table in the top frame to the right sets the time periods within each schedule for each day of the week.

The table in the bottom frame allows you to rename schedules.Schedules are activated and deactivated through control telephones. For more information see Configuring a control telephone (page 149). Restriction and Routing

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services require a service control password before users are allowed to change scheduling on a control telephone. The Service Control Password field on this panel allows you to delete a current entry, and add a new password. Make a note of the password; the panel displays only asterisks.

Configuring scheduled service

Configure the settings for the schedules that you are using for your system.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Scheduled Services**.
2	Select the fields you want to modify.
	--End--

Variable Definitions

Variable	Value
Service Control Password	Restriction and Routing schedules require the user to enter a password on the control telephone before scheduling can be changed. If you forget the password, enter a new password. <alphanumeric>
Schedule	These are the schedules that are available on the system. <read-only>
Routing Svc	Off prevents the service from being activated. Manual allows you to turn the service on and off at any time from a control telephone. This setting overrides any automatically-running schedules. Auto allows you to program a stop and start time for a service under the Common Settings heading. These times are then automatically executed when the service is active. Default: Off

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Variable	Value
Overflow	If all the lines used by a route are busy when a call is made, you can program Routing service to overflow to the route used for normal mode. If the call is routed to use the normal mode, the telephone sounds a warning tone and displays the message Expensive route. The caller then can release the call to avoid the toll charges or can continue. Tips: A schedule must be active for overflow routing to be in effect. Overflow routing is not available in normal mode. You must create an overflow route to be used with each routing code. In this way, every route used with a scheduled mode that has overflow service must have an alternate route in normal service. Default: Cleared
Ringing Svc	Off prevents the service from being activated. Manual allows you to turn the service on and off at any time from a control telephone. This setting overrides any automatically-running schedules. Auto allows you to program a stop and start time for a service under the Common Settings heading. These times are then executed automatically when the service is active. Default: Off
Trunk Answer	Trunk answer allows you to answer, from any telephone, an external call that is ringing at another telephone in your office, if the Ringing Service is active on that line at the time of the call. If the service is not active, you cannot answer the call. Trunk answer is useful if the other telephones are not assigned the same lines as the telephone you are using to answer the call. Note: You can change the Trunk Answer setting only if Ringing service is set to Manual or Auto. Default: Selected

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Variable	Value
Extra dial set	The Extra dial set attribute allows you to assign an additional telephone to receive calls for each schedule. Note: The extra dial set is activated during a schedule by entering the Ringing service feature code from the assigned direct dial telephone. This does not activate the Ringing service, unless the direct dial telephone is also a control set.
Restriction Svc	Off prevents the service from being activated. Manual allows you to turn the service on and off at any time from a control telephone. This setting overrides any automatically-running schedules. Auto allows you to program a stop and start time for a service under the Common Settings heading. These times are then executed automatically when the service is active. Default: Off

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Basic parameters for analog sets and devices configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Determine the programming for individual telephones and devices attached to analog station modules or to digital station modules through an analog terminal adapter (ATA) module.

Analog sets can be configured using Set Templates. For more information about Set Templates, see Set Template Programming (page 32).

Configuring basic parameters for analog sets and devices navigation

- Configuring analog telephones (page 46)
- Assigning a line to an analog telephone (page 47)
- Adding line assignments and line pools for analog telephones (page 48)
- Configuring set capabilities and user preferences for analog telephones (page 49)
- Configuring telephone capabilities for analog telephones (page 49)
- Programming outgoing call restrictions for analog telephones (page 51)
- Setting restriction filters for analog telephones (page 51)
- Setting line/set restrictions for analog telephones (page 52)
- Assigning pause for external dialing for analog devices (page 52)

Prerequisites

The following programming must be completed prior to performing this configuration:

- Numbering plan
- Lines programming
- Analog or digital module installation, configuration and wiring to the devices (ATA module, if required).

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Configuring analog telephones

Use the following steps to configure analog telephones.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets.**
2	On each panel on the DNs list, add or modify settings to customize the telephone operations.

--End--

Variable Definitions

Variable	Value
Model	Analog
Name	Unique to each device or device loop
Appearance Type	Ring only
Caller ID Set	Select check box (connected to ASM8+, GASM, or GASI devices for calls from GASM or target lines)
Intercom keys	Two: not configurable
The following settings are the only capability settings that are valid for analog devices.	
ATA answer timer	Keep short for modems and fax machines
ATA tones	check box
ATA use	On site
	Off site works for devices connected to ATA modules only
Msg indicate	
ATA device	modem/telephone
Disconnect supervision	Select for auto-answer modems and fax machines
	Do not select for telephones
	Supported by ASM8+, GASM, and GASI devices
The following settings are common settings that are specific to analog telephones.	
Handsfree/HF Answerback	Do not select
Page settings	Select check box
	Can send pages but cannot receive pages
Receive short tones	Select check box (analog telephones only)

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Variable	Value
Hotline	
The following settings are not valid (N/V) or are limited on analog devices.	
Keep DN Alive	N/V
Silent monitor supervision	Do not select
DND on Busy	Do not select
Priority call	Do not select
Auto hold	Do not select
Allow Link	Select check box (telephones only)
All other settings are variable, based on your system requirements.	

Assigning a line to an analog telephone

Use the following steps to assign a line to an analog telephone.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Line Access.**
2	Select the DN to which you want to add a line.
3	In the details for the DN section, select the field that you want to modify.

--End--

Variable Definitions

Variable	Value
Name	Enter a name that identifies the user or the location (maximum of seven digits).
Port	Enter the port number for the device.
Pub. OLI	Enter or confirm the number that displays at the far end for calls going out over the public network (only on digital and VoIP trunks).OLI numbers can be bulk changed using the Renumber button available under **Configuration>Telephony>Sets>All DNs**.
Priv. OLI	Enter or confirm the number that displays at the far end for calls going over the private network. This number is usually the same as the DN (only on digital and VoIP trunks). OLI numbers can be bulk changed using the Renumber button available under **Configuration>Telephony>Sets>All DNs**.

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Variable	Value
Fwd No Answer	Enter the number of the device that receives calls when this telephone does not answer. The device can be another telephone or a voice mail service
Fwd Delay	Confirm or change the number of rings you want to occur at the telephone before a call is forwarded. (Default: 4).
Fwd Busy	Enter the number of the device you want to receive calls when this telephone is busy. This can be another telephone or a voice mail service.
Fwd All	Enter the number of the device where all calls to this telephone are forwarded.

Adding line assignments and line pools for analog telephones

Use the following steps to assign lines and line pools.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets**.
2	Select the **Line Access** tab.
3	Select the **Line Assignment** tab in the bottom panel.
4	Click **Add** to add line assignments for the telephone. The Add Line Assignments box appears.
5	Enter the Line number.
6	Click Ok.
7	Configure the remaining fields. Not all of these fields apply to all types of lines. **Appearance Type/Appearances (target lines)** **Caller ID Set (target lines)** **Vmsg Set** **Priv. Received #** **Pub. Received #**
8	Click the **Line Pool Access** tab.
9	Use the Add button to add line pools for the telephone. The Add Line Pool box appears.
10	Enter the Line Pool.
11	Click **Ok**.
12	Click the **Answer DNs** tab.
13	Click **Add**. The Add Answer DN box appears.

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14	Enter the Answer DN.
15	Click **Ok**. If the telephone does not have any buttons with indicators available to provide an Answer DN appearance, ensure that Appearance Type is set to Ring only. Answer DNs, which are assigned to buttons, can also be used to autodial that telephone.

--End--

Configuring set capabilities and user preferences for analog telephones

Use the following steps to configure set capabilities and user preferences.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets** > **Capabilities and Preferences** tab.
2	Select the DN that you want to modify.
3	Type a name or location associated with the DN.
4	**Prime Line**: Enter the facility that you want the telephone to use if no line, line access code, or routing code is dialed before an outgoing dial string.
5	**Intercom Keys**: Confirm or change how many intercom keys you want the telephone to have. The default is 2. Programming note: At least one intercom key must be defined to allow internal calls. Two intercom keys are recommended for conference calling. Model 7000 and 7100 telephones are automatically assigned two intercom keys, so users can alternate between two active calls.
6	**Control Set**: If the telephone uses any schedules other than the Normal schedule, ensure that a DN for a control set is entered.
7	**First Display**: Choose Name if you want the caller's name to be the first information displayed. Set this field to Number to display the caller's telephone number first, or to Line, to display the calling line number first.
8	**Auto Called ID**: Select the check box if you want the user to see the name and number display of the telephone they call.

--End--

Configuring telephone capabilities for analog telephones

Use the following procedure to configure telephone capabilities.

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Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets.**
2	Select the **Capabilities and Preferences** tab.
3	In the bottom frame, on the **Capabilities** tab, confirm or change how the telephone functions with system features.

--End--

Variable Definitions

Variable	Value
Handsfree settings	Handsfree: Select the setting that is appropriate for the type of telephone. HF answerback: Select the check box only if the telephone allows handsfree, and is in an environment where speakers do not cause disruption.
Page settings	Page zone: If you have various areas that receive different page announcements, place the telephone in the appropriate zone. Paging: Select the check box if the telephone can send or receive page messages. Programming note: Telephones without speakers, such as models 2001, 1110, 7000, and 7100, allow page messages to be sent, but not to be received.
Interrupting calls	DND on Busy: Select the check box if you want the caller to receive a Do Not Disturb message when the telephone is busy. Ensure this feature is selected, when the Fwd Busy field has a value. Priority call: Select the check box if you want the user to be able to forward calls that alert at the telephone where the call was forwarded, even when that telephone is busy. Intrusion protection level: Select an intrusion level if you want the user to be able to break into calls on other telephones. The intrusion level must be the same or higher than the telephone being interrupted.
Auto hold	Select the check box if you want calls coming into the telephone to be placed on hold automatically when the user answers another call, or dials out while an incoming call is active.

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Variable	Value
Redirect settings	Allow redirect: Select the check box if you want the user to be able to redirect active lines to other telephones. Redirect ring: Select the check box if you want calls coming into a redirected line to give a short alert.
Receive short tones	Do not select this for digital telephones.
Administrative capabilities	Pickup group: If you want to allow this telephone to be answered by other telephones in a defined group, choose the appropriate group. Otherwise, leave the field blank. Direct dial: Select the direct dial telephone assignment that you want this telephone to be able to dial with one digit (direct dial access code). Silent monitor supervisor: Select this check box to enable the telephone to monitor hunt group calls.

Programming outgoing call restrictions for analog telephones

Restriction filters determine what dialing strings are allowed or blocked from the user. You can specify restriction filters specific to the telephone, as well as filters that are specific to a line assigned to the telephone.

- restriction filters
- line restrictions
- CoS passwords

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Restrictions** tab.
2	Select the DN that you want to modify.
3	**Set Lock:** Determine how much programming the user is able to perform at their telephone. Choose from None, Partial or Full.
4	**Allow last number:** Select the check box if you want to allow redialing a saved number.
5	**Allow link:** Select this check box only for analog telephones.

--End--

Setting restriction filters for analog telephones

Assign restriction filters for the schedules that will affect this telephone.

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Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Restrictions** tab.
2	Select the field you want to change.
3	Enter the restriction filter appropriate for the schedule. You will always need a filter specified for the Normal schedule.
4	Repeat for each schedule.

--End--

Setting line/set restrictions for analog telephones

Assign restriction filters for the schedules that will affect the lines assigned to this telephone.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Line/Set Restrictions** tab.
2	Select the line you want to modify.
3	Select the field you want to modify on that line.
4	Enter the restriction filter appropriate for the schedule. You always need a filter specified for the Normal schedule.
5	Repeat for each line.

--End--

Assigning pause for external dialing for analog devices

The external Hotline feature provides automatic access to a line when an analog device goes off-hook.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets**.
2	Select the **Capabilities and Preferences** tab.

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3 In the bottom panel, select the **Preferences** tab.

4 In the Hotline type drop-down list, select **External**.

5 Set the Facility field to **Use prime line**.

6 Click **"P"** from the drop-down keypad in the External number field. This feature code inserts a 1.5-second pause before the device dials out.

7 Click **Ok**.

--End--

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Basic parameters for digital sets configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Determine the programming for individual telephones and devices attached directly to digital media bay modules, or the fixed digital ports on the main chassis. Digital sets can be configured using Set Templates. For more information about Set Templates, see Set Template Programming (page 32).

Prerequisites

- Modules are installed, and you understand which ports and DNs can be assigned to your telephones.
- Lines and routes programming are created for dialing the local PSTN. Target lines are created where required by the type of trunks you are using. Note: The line must be configured as supervised/guarded.
- Appropriate restriction filters are created to allow or disallow out-dialed calls.
- Telephony system features have been programmed, and you understand which features are not available to all users.

Configuring basic parameters for digital sets navigation

- Configuring digital telephones using the DN panels (page 56)
- Assigning a line to a digital telephone (page 56)
- Adding line assignments and line pools to digital telephones (page 58)
- Configuring set capabilities and preferences for digital sets (page 59)
- Configuring digital telephone capabilities (page 61)
- Configuring preferences for a digital telephone (page 63)
- Programming digital telephone memory buttons (page 63)
- Programming user speed dials for digital telephones (page 65)
- Programming outgoing call restrictions for digital telephones (page 65)

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- Setting restriction filters for digital telephones (page 66)
- Setting line/set restrictions for digital telephones (page 66)

Configuring digital telephones using the DN panels

The DN record defines the specific function of each telephone within the system. Perform the following steps to customize the DN operations.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > All DNs**.
2	On each panel on the DNs list, add or modify settings to customize the telephone operations.

--End--

Assigning a line to a digital telephone

On each panel on the DNs list, add or modify settings to customize the telephone operations.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Line Access.**
2	Select the line listing the appropriate DN for the telephone.
3	Select the field that you want to modify.

--End--

Variable Definitions

Variable	Value
Name	Enter a name that identifies the user or the location (maximum of seven digits).
Port	Enter the port number for the device.
Pub. OLI	Enter or confirm the number that displays at the far end for calls going out over the public network (only on digital and VoIP trunks). OLI numbers can be bulk changed using the Renumber button available under **Configuration>Telephony>Sets>All DNs**.

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Variable	Value
Priv. OLI	Enter or confirm the number that displays at the far end for calls going over the private network. This number is usually the same as the DN (only on digital and VoIP trunks). OLI numbers can be bulk changed using the Renumber button available under **Configuration>Telephony>Sets>All DNs**.
Fwd No Answer	Enter the number of the device that receives calls when this telephone does not answer. The device can be another telephone or a voice mail service
Fwd Delay	Confirm or change the number of rings you want to occur at the telephone before a call is forwarded. (Default: 4).
Fwd Busy	Enter the number of the device you want to receive calls when this telephone is busy. This can be another telephone or a voice mail service.
Fwd All	Enter the number of the device where all calls to this telephone are forwarded.

Job aid: Notes about assigning lines to telephones

Nortel recommends a maximum of four line buttons per telephone. You can program more than four line buttons on a telephone by programming less than four on other sets. For example, you might program 20 line buttons on a receptionist telephone equipped as a CAP station, and only two lines on all other telephones.

For BCM450, you can program a maximum of 93 telephones with a line appearance for a specific line, including VoIP and target lines. Above this maximum, you can configure more than one appearance per telephone of a target line.

Note: This facility is not available in BCM50.

Do not assign auto-answer loop start trunks, auto-answer T1 E&M trunks, and T1 DID trunks to telephones. These trunks are used to monitor incoming call usage, or to place outgoing calls (auto-answer loop start and T1 E&M trunks).

A line that is configured as private cannot be assigned to another telephone.

Each line assigned to a telephone must appear to a button with an indicator. The maximum number of available buttons is 8 for the 7208 digital telephones, 10 for the model 7310, 10 for 7316 digital telephones, 16 for the 7316E digital telephone, and 24 for the model 7324 digital telephones. You need at least two intercom buttons to use the conference feature.

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In addition to lines, buttons have other uses, for example, intercom or handsfree operation. Line programming does not overwrite assigned Intercom, Answer DN, Handsfree, or Hunt group buttons. However, intercom buttons overwrite anything.

Answer DNs also overwrite line programming, but not Intercom buttons. Answer DN buttons appear above Intercom buttons; if an Intercom button is added after Answer DN buttons are assigned, the Intercom button pushes the Answer DNs up. The top Answer DN overwrites whatever is above it.

If you set a line to Ring only, incoming calls appear on an intercom button.The 7000, 7100 digital telephones, are exceptions, they have no line buttons; therefore, you can assign any number of lines, but only two lines can be answered at any one time. Assign the lines on these telephones to ring; otherwise, you cannot detect incoming calls on the lines.

An enhanced central answering position (eCAP), with one or more modules, provides extra line button support, if the number of lines to assign exceeds the number of available buttons with indicators. The remaining lines assign to buttons on the module. The eKIM also supports hunt group designators, and multiple appearances of the same target line, which flow to the module if there are no available buttons with indicators on the 7316E digital phone.

Attention: If you do a Backup/Cold Start/Restore sequence on your BCM 5.0, button programming on an enhanced CAP (eCAP) module is lost, and the lines assigned to those buttons are assigned to the buttons on the telephone. These assignments displace any programming on the telephone buttons, except Answer DN buttons, intercom buttons, handsfree buttons, or Hunt group appearances. In the case where there are more reassigned lines than buttons, the system still assigns the lines to the telephone, and the telephone rings when a call comes in on that line (given that Appr&Ring is configured on the line). To resolve this situation, access the DN records for the telephone and the CAP/KIM button programming. Enter the required programming.

By using FEATURE *81 at the telephone, lines can be moved to other buttons on the telephone, except intercom, Answer DN, or handsfree positions, or the lines can be moved to buttons on the modules on an eCAP. On telephones, the feature or line, assigned to the button where the line is moved, moves to the original line button position. On eCAP modules, moved lines overwrite feature programming.

Adding line assignments and line pools to digital telephones

Use the following steps to assign lines and line pools.

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Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets**.
2	Select the **Line Access** tab.
3	Select the **Line Assignment** tab in the bottom panel.
4	Click **Add** to add line assignments for the telephone. The Add Line Assignments box appears.
5	Enter the Line number.
6	Click Ok.
7	Configure the remaining fields: **Appearance Type/Appearances (target lines), Caller ID Set (target lines)**, **Vmsg Set**, **Priv. Received #, Pub. Received #**

Attention: Not all of these fields apply to all types of lines.

8	Click the **Line Pool Access** tab.
9	Use the Add button to add line pools for the telephone. The Add Line Pool box appears.
10	Enter the Line Pool.
11	Click **Ok**.
12	Click the **Answer DNs** tab.
13	Click **Add**. The Add Answer DN box appears.
14	Enter the Answer DN.
15	Click **Ok**.

Attention: If the telephone does not have any buttons with indicators available to provide an Answer DN appearance, ensure that Appearance Type is set to Ring only. Answer DNs, which are assigned to buttons, can also be used to autodial that telephone.

--End--

Configuring set capabilities and preferences for digital sets

Use the following steps to configure set capabilities and user preferences.

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Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets** > **Capabilities and Preferences** tab.
2	Select the DN that you want to modify.
3	Type a name or location associated with the DN.
4	**Prime Line**: Enter the facility that you want the telephone to use if no line, line access code, or routing code is dialed before an outgoing dial string.
5	**Intercom Keys**: Confirm or change how many intercom keys you want the telephone to have. The default is 2. Programming note: At least one intercom key must be defined to allow internal calls. Two intercom keys are recommended for conference calling. Model 7000 and 7100 telephones are automatically assigned two intercom keys, so users can alternate between two active calls.
6	**Control Set**: If the telephone uses any schedules other than the Normal schedule, ensure that a DN for a control set is entered.
7	**First Display**: Choose Name if you want the caller's name to be the first information displayed. Set this field to Number to display the caller's telephone number first, or to Line, to display the calling line number first.
8	**Auto Called ID**: Select the check box if you want the user to see the name and number display of the telephone they call.

--End--

Job aid: Assigning intercom (I/C) buttons (keys)

The Intercom keys attribute assigns the number of intercom buttons on a telephone. Intercom buttons provide access to a maximum of eight internal or external lines and line pools. The user presses the intercom key to answer internal calls, or to select a line or line pool to place a call. Lines configured for Ring only also appear on intercom buttons.

If you assign a prime line to an intercom key, you are immediately connected to a line when you press the button or lift the handset. A line indicator appears beside the intercom button.

When you assign an intercom button during programming, the assignment automatically appears on the telephone. Assignment starts at the lower-right button, or one button above if the handsfree feature is available. Any feature or line programming that existed previously on that button is overwritten, except for Answer DNs that are pushed up one button.

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A telephone requires two intercom buttons to establish a conference call with two other BCM telephones.

You require only one intercom button if the button is used to place and receive internal calls, and to access line pools.

You require two intercom buttons for a telephone with several lines assigned to Ring only.

Model 2001, 1110, 7000, and 7100 telephones and analog telephones are automatically assigned two intercom buttons. This allows users to toggle between two active calls using the Hold button.

Configuring digital telephone capabilities

Use the following procedure to configure telephone capabilities.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets > Capabilities and Preferences** tab.
2	In the bottom frame, on the Capabilities tab, confirm or change how the telephone functions with system features.

--End--

Variable Definitions

Variable	Value
Handsfree settings	Handsfree: Select the setting that is appropriate for the type of telephone. HF answerback: Select the check box only if the telephone allows handsfree, and is in an environment where speakers do not cause disruption.
Page settings	Page zone: If you have various areas that receive different page announcements, place the telephone in the appropriate zone. Paging: Select the check box if the telephone can send or receive page messages. Programming note: Telephones without speakers, such as models 2001, 1110, 7000, and 7100, allow page messages to be sent, but not to be received.

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Variable	Value
Interrupting calls	DND on Busy: Select the check box if you want the caller to receive a Do Not Disturb message when the telephone is busy. Ensure this feature is selected, when the Fwd Busy field has a value. Priority call: Select the check box if you want the user to be able to forward calls that alert at the telephone where the call was forwarded, even when that telephone is busy. Intrusion protection level: Select an intrusion level if you want the user to be able to break into calls on other telephones. The intrusion level must be the same or higher than the telephone being interrupted.
Auto hold	Select the check box if you want calls coming into the telephone to be placed on hold automatically when the user answers another call, or dials out while an incoming call is active.
Redirect settings	Allow redirect: Select the check box if you want the user to be able to redirect active lines to other telephones. Redirect ring: Select the check box if you want calls coming into a redirected line to give a short alert.
Receive short tones	Do not select this for digital telephones.
Administrative capabilities	Pickup group: If you want to allow this telephone to be answered by other telephones in a defined group, choose the appropriate group. Otherwise, leave the field blank. Direct dial: Select the direct dial telephone assignment that you want this telephone to be able to dial with one digit (direct dial access code). Silent monitor supervisor: Select this check box to enable the telephone to monitor hunt group calls.

Job aid: Line redirection notes

This feature enables you to send your external calls to a telephone outside the office. You can decide to redirect all, or just some, of your external lines.

You can redirect only lines that appear as line buttons on your telephone. Since 2001, 1110, 7000, and 7100 telephones do not have line buttons, they do not support line redirection. Also, line redirection is not supported on telephones connected to an ATA2 or ASM/GASM (analog station modules).

You can answer the telephone if it rings while you are programming line redirection. However, call handling features are not available until the programming wait period times out. If you need to use a feature to process the call, quit line redirection programming by pressing FEATURE. If you press RELEASE, the call is disconnected.

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In some conditions, callers can experience lower volume levels when you redirect calls to an external location.

Attention: Be careful about redirection loops. For example, if you redirect your lines to your branch office, and your branch office redirects its lines to you, you can create a redirection loop. If these calls are long distance, significant toll charges can result.

Attention: While programming Line Redirection, there is no indication of calls to that telephone, except a call that rings the telephone.

Configuring preferences for a digital telephone

Use this panel to specify operational attributes. These attributes can also be set at the telephone. Settings at the telephone override Element Manager settings.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Capabilities and preferences tab.**
2	Click the **Preferences** tab in the bottom panel.
3	**Call log options**: Determine when calls are logged.
4	**Dialing options**: Determine how the user dials numbers. Programming note: Some telephones do not allow all dialing options.
5	**Contrast:** Adjust the contrast level of the display.
6	**Ring type**: If you want incoming calls to produce a specific type of ring (for example, to differentiate between two telephones that are in close proximity), select one of the four ring types. If you select None, the default ring is used.

--End--

Programming digital telephone memory buttons

Use this panel to assign features to available buttons on the telephone.

Procedure steps

Step	Action

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1. Click **Configuration** > **Telephony** > **Sets** > **Active Sets** > **Capabilities and Preferences** tab.
2. Select the DN of the telephone to program.
3. Click the **Button Programming** tab in the bottom panel.
4. The model shown in the model field determines the number of available buttons.

   Programming note: Assigned lines, answer DNs, hunt group designators, and intercom keys cannot be overridden using this template.
5. Select the field beside the button you want to configure or change. A Modify box appears.
6. Select the feature, internal or external autodial you want to assign.
7. Select from a list of available values to choose from.
8. Click **Ok**.

--End--

Job aid: Notes about button programming

- The number of available button positions depends on the model of telephone that you are programming.
- New button programming overwrites memory button programming performed at the telephone. Conversely, changes to memory button programming, performed at the telephone, overwrites memory keys programmed under Button programming or CAP/KIM button programming. The panels reflect changes made at the telephone.
- The 7316 telephone has disjointed button numbering; it is because patterned after the legacy 7310, but has fewer buttons than the 7310. However, Button programming shows the 7310 button array. Refer to the default button programming section to ensure that you program the correct button numbers.

Button labeling: T-series telephones have a paper strip of labels that can be customized and printed using the Desktop Assistant Pro, or the Desktop Assistant Administrator Pro (AE) application. The AE version is located under the administrator applications heading on the Element Manager web page. The Desktop Assistant Pro is located under the User Applications heading on the Element Manager web page. Desktop Assistant Pro requires a LAN CTE keycode before it can be used. See the *Keycode Install Guide* (NN40010-301) for more information on keycodes.

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Programming user speed dials for digital telephones

Use this tab to assign telephone numbers to speed dial codes. These codes are available to all telephones in the system. The number of available codes is determined under system feature programming.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets** > **Capabilities and Preferences** tab.
2	Select the DN of the telephone to program.
3	Click the **User speed dial** tab in the bottom panel.
4	Click **Add**. The Add User Speed Dial box appears.
5	Enter the Speed Dial Number.
6	Click **Ok**.
7	Click on the **External Number** field and enter the external number to dial.

--End--

Programming outgoing call restrictions for digital telephones

Restriction filters determine what dialing strings are allowed or blocked from the user. You can specify restriction filters specific to the telephone, as well as filters that are specific to a line assigned to the telephone.

- restriction filters
- line restrictions
- CoS passwords

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Restrictions** tab.
2	Select the DN that you want to modify.
3	**Set Lock:** Determine how much programming the user is able to perform at their telephone. Choose from None, Partial or Full.
4	**Allow last number:** Select the check box if you want to allow redialing a saved number.
5	**Allow link:** Select this check box only for analog telephones.

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--End--

Setting restriction filters for digital telephones

Assign restriction filters for the schedules that will affect this telephone.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Restrictions** tab.
2	Select the field you want to change.
3	Enter the restriction filter appropriate for the schedule. You will always need a filter specified for the Normal schedule.
4	Repeat for each schedule.

--End--

Setting line/set restrictions for digital telephones

Assign restriction filters for the schedules that will affect the lines assigned to this telephone.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Line/Set Restrictions** tab.
2	Select the line you want to modify.
3	Select the field you want to modify on that line.
4	Enter the restriction filter appropriate for the schedule. You always need a filter specified for the Normal schedule.
5	Repeat for each line.

--End--

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IP phone configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

IP telephones have a very similar DN configuration to digital telephones. There are several models of i-series telephones, and each telephone has a different number of programmable buttons. See the Nortel i-series telephone user cards for details.

IP phones can be configured using Set Templates. For more information about Set Templates, see Set Template Programming (page 32).

Prerequisites

The following programming must be completed prior to performing this configuration:

- Numbering plan
- Lines programming
- Telephony system feature programming
- IP telephony network setup

Attention: IP sets that do not have integrated switches must be connected to the LAN through an Ethernet switch.

IP phone configuration navigation

- Configuring IP telephones (page 68)
- Assigning a line to an IP telephone (page 68)
- Adding line assignments and line pools to IP telephones (page 69)
- Configuring set capabilities and preferences for IP sets (page 70)
- Configuring IP telephone capabilities (page 71)
- Configuring preferences for an IP telephone (page 72)

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Configuring IP telephones

Use the following steps to configure IP telephones.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > All DNs**.
2	On each panel on the DNs list, add or modify settings to customize the telephone operations.

--End--

Variable Definitions

Variable	Value
Model	2004, 2002, 2001, 2007, 2033, 1110, 1120E, 1140E, 2050, 2210, 2211, 2212, 1210, 1220, 1230, 6120, 6140
Name	Unique to each handset
Line appearances	Ring only (if not assigned to a button)
Caller ID set	Selected (connected to target lines)
Answer DNs	Ring only (if not assigned to a button)
Intercom keys	At least one
Handsfree	Auto
Dialing Options	Auto
All other settings are variable, based on your system requirements.	

Assigning a line to an IP telephone

Use the following steps to assign a line to an IP telephone.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Line Access.**
2	Select the line listing the appropriate DN for the telephone.
3	Select the field that you want to modify.

--End--

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Variable Definitions

Variable	Value
Name	Enter a name that identifies the user or the location (maximum of seven digits).
Port	Enter the port number for the device.
Pub. OLI	Enter or confirm the number that displays at the far end for calls going out over the public network (only on digital and VoIP trunks). OLI numbers can be bulk changed using the Renumber button available under **Configuration>Telephony>Sets>All DNs**.
Priv. OLI	Enter or confirm the number that displays at the far end for calls going over the private network. This number is usually the same as the DN (only on digital and VoIP trunks). OLI numbers can be bulk changed using the Renumber button available under **Configuration>Telephony>Sets>All DNs**.
Fwd No Answer	Enter the number of the device that receives calls when this telephone does not answer. The device can be another telephone or a voice mail service
Fwd Delay	Confirm or change the number of rings you want to occur at the telephone before a call is forwarded. (Default: 4).
Fwd Busy	Enter the number of the device you want to receive calls when this telephone is busy. This can be another telephone or a voice mail service.
Fwd All	Enter the number of the device where all calls to this telephone are forwarded.

Adding line assignments and line pools to IP telephones

Use the following steps to assign lines and line pools.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets**.
2	Select the **Line Access** tab.
3	Select the **Line Assignment** tab in the bottom panel.
4	Click **Add** to add line assignments for the telephone. The Add Line Assignments box appears.
5	Enter the Line number.
6	Click Ok.
7	Configure the remaining fields. Not all of these fields apply to all types of lines.

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Appearance Type/Appearances (target lines)
Caller ID Set (target lines)
Vmsg Set
Priv. Received #
Pub. Received #

8 Click the **Line Pool Access** tab.

9 Use the Add button to add line pools for the telephone.
The Add Line Pool box appears.

10 Enter the Line Pool.

11 Click **Ok**.

12 Click the **Answer DNs** tab.

13 Click **Add**.
The Add Answer DN box appears.

14 Enter the Answer DN.

15 Click **Ok**.

Attention: Programming note: If the telephone does not have any buttons with indicators available to provide an Answer DN appearance, ensure that Appearance Type is set to Ring only.
Answer DNs, which are assigned to buttons, can also be used to autodial that telephone.

--End--

Configuring set capabilities and preferences for IP sets

Use the following steps to configure set capabilities and user preferences.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets** > **Capabilities and Preferences** tab.
2	Select the DN that you want to modify.
3	Type a name or location associated with the DN.
4	**Prime Line: E**nter the facility that you want the telephone to use if no line, line access code, or routing code is dialed before an outgoing dial string.
5	**Intercom Keys**: Confirm or change how many intercom keys you want the telephone to have. The default is 2.

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Programming note: At least one intercom key must be defined to allow internal calls. Two intercom keys are recommended for conference calling.

6 **Control Set**: If the telephone uses any schedules other than the Normal schedule, ensure that a DN for a control set is entered.

7 **First Display**: Choose Name if you want the caller's name to be the first information displayed. Set this field to Number to display the caller's telephone number first, or to Line, to display the calling line number first.

8 **Auto Called ID**: Select the check box if you want the user to see the name and number display of the telephone they call.

--End--

Configuring IP telephone capabilities

Use the following procedure to configure telephone capabilities.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets > Capabilities and Preferences** tab.
2	In the bottom frame, on the **Capabilities** tab, confirm or change how the telephone functions with system features.

--End--

Variable Definitions

Variable	Value
Handsfree settings	Handsfree: Select the setting that is appropriate for the type of telephone. HF answerback: Select the check box only if the telephone allows handsfree, and is in an environment where speakers do not cause disruption.
Page settings	Page zone: If you have various areas that receive different page announcements, place the telephone in the appropriate zone. Paging: Select the check box if the telephone can send or receive page messages. Programming note: Telephones without speakers allow page messages to be sent, but not to be received.

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Variable	Value
Interrupting calls	DND on Busy: Select the check box if you want the caller to receive a Do Not Disturb message when the telephone is busy. Ensure this feature is selected, when the Fwd Busy field has a value. Priority call: Select the check box if you want the user to be able to forward calls that alert at the telephone where the call was forwarded, even when that telephone is busy. Intrusion protection level: Select an intrusion level if you want the user to be able to break into calls on other telephones. The intrusion level must be the same or higher than the telephone being interrupted.
Auto hold	Select the check box if you want calls coming into the telephone to be placed on hold automatically when the user answers another call, or dials out while an incoming call is active.
Redirect settings	Allow redirect: Select the check box if you want the user to be able to redirect active lines to other telephones. Redirect ring: Select the check box if you want calls coming into a redirected line to give a short alert.
Receive short tones	Do not select this for digital telephones.
Administrative capabilities	Pickup group: If you want to allow this telephone to be answered by other telephones in a defined group, choose the appropriate group. Otherwise, leave the field blank. Direct dial: Select the direct dial telephone assignment that you want this telephone to be able to dial with one digit (direct dial access code). Silent monitor supervisor: Select this check box to enable the telephone to monitor hunt group calls.

Configuring preferences for an IP telephone

Use this panel to specify operational attributes. These attributes can also be set at the telephone. Settings at the telephone override Element Manager settings.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Capabilities and preferences tab.**
2	Click the **Preferences** tab in the bottom panel.
3	**Call log options**: Determine when calls are logged.

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4 **Dialing options**: Determine how the user dials numbers.
Programming note: Some telephones do not allow all dialing options.

5 **Contrast:** Adjust the contrast level of the display.

6 **Ring type**: If you want incoming calls to produce a specific type of ring (for example, to differentiate between two telephones that are in close proximity), select one of the four ring types. If you select None, the default ring is used.

--End--

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Telephone relocation

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can physically move a telephone within the system so that the telephone programming follows the telephone to the new location.

Navigation

- Digital telephone relocation (page 75)
- Keeping an IP telephone active (page 76)
- IP telephone relocation without changing the DN (page 76)
- IP telephone relocation with a changed DN (page 76)

Digital telephone relocation

To move a digital telephone you must first enable set relocation in Element Manager.

Procedure steps

Step	Action
1	In the Element Manager, go to **Configuration > Telephony > Global Settings > Feature Settings.**
2	In the **Feature Settings** section, select the **Set relocation** check box. Move the telephone by physically unplugging the telephone and plugging it in again at another location. It can take up to 45 seconds for the system to recognize the telephone.
3	Clear the **Set relocation** check box.

--End--

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Keeping an IP telephone active

To keep an IP telephone active after it is disconnected, you must change a setting in Element Manager.

Procedure steps

Step	Action
1	In the Element Manager, go to **Configuration > Telephony > Sets > Active Sets**.
2	Click the **Capabilities and Preferences** tab.
3	Click **IP Terminal** details.
4	Select the **Keep DN alive** check box. Clear the **Keep DN alive** check box to allow the Direct Number (DN) record to become inactive if the IP telephone is disconnected.

--End--

IP telephone relocation without changing the DN

To move an IP telephone without changing the DN, complete this procedure.

Procedure steps

Step	Action
1	Disconnect the power from the IP telephone or three-port switch.
2	Disconnect the network connection.
3	At the new location, reconnect the network cable and the power connection.
4	If the new location is on a different subnet, you must make the appropriate changes to the telephone IP addressing; however, do not change the S1 IP or S2 IP address. If your network is using partial DHCP, reconfiguration is not required at this step.
5	Disconnect the power from the IP telephone or three-port switch.

--End--

IP telephone relocation with a changed DN

To move an IP telephone and change the DN, complete this procedure.

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Procedure steps

Step	Action
1	In the Element Manager, go to **Configuration > Resources > Telephony Resources.**
2	On the Modules panel, select IP Sets.
3	Select the IP Terminal Details tab.
4	Select the DN that you want to deregister and click the **Deregister** button.
5	Disconnect the network connection and the power connection from the telephone.
6	Reinstall the telephone at the new location, and reconfigure the telephone.

--End--

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Central answering positions configuration

The information in this chapter applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Use the following tasks to configure central answering positions.

- Configuring CAP assignments (eCAPs) (page 79)
- Programming CAP/KIM buttons (page 80)

Configuring CAP assignments (eCAPs)

Use the CAP Assignment panel to designate 7316E+KIM units as eCAPs. The following procedures describe how to use the fields on the CAP Assignment panel.

Creating CAP stations

Use the following steps to create CAP stations.

Procedure steps

Step	Action
1	Ensure that the telephone you want to use is configured and working on the system.

Attention: CAPs are available only on T7316E and M7324 digital sets and IP Phone 2002, IP Phone 2004, and IP Phone 2007 sets.

2	Ensure that the KIM is installed on the appropriate telephone.
3	Refer to the installation user card that came with the module, if necessary.
4	Click on **Configuration> Telephony> Global Settings> CAP Assignment**.
5	On the CAP Assignment table, click the line for the CAP you want to configure as an eCAP.

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6	Select the Set DN field and type the DN for the telephone.

--End--

Programming CAP/KIM buttons

Use the following tasks to program CAP/KIM buttons.

- Programming module buttons (page 80)

Programming module buttons

Designating features or autodial numbers to the eKIM buttons can be performed using the CAP/KIM Button Programming panel.

Procedure steps

Step	Action
1	Click **Configuration** > **Telephony** > **Sets** > **Active Sets**.
2	Click the **Capabilities and Preferences** tab.
3	Select the DN for the CAP you want to configure.
4	In the lower panel, click the CAP/KIM Button Programming tab.
5	Select the line for the button number that you want to program.
6	Configure the feature or autodial on the button. You cannot assign lines, target lines, or Hunt group indicators using button programming. These must be performed through assigning lines to the telephone, and, for hunt groups, configuring the telephone as a Hunt group member. These lines are either moved to the modules, or overflow to the module, if the telephone buttons cannot accommodate the new settings. You cannot assign Hunt group DNs as an autodial button on the KIM modules.

--End--

Procedure job aid

If the 7316E+KIM is configured as an eCAP, you can move lines onto the module using FEATURE *81 on the telephone. You can also reassign Hunt group designators to the KIM module by using the same feature. You can also force lines onto the KIM by assigning more lines than the telephone buttons can support. Extra lines automatically flow over to the module; however they flow sequentially, starting on the top left at button 01. Also, they overwrite any existing programming on the KIM, except existing line or hunt group (KIM) assignments. Any of the buttons, without assigned lines, can be programmed to dial internal or external numbers automatically, or to access a feature.

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Hunt Group configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

The Hunt Groups panel allows you to set up call groups that are assigned a common hunt group DN for incoming calls. The calls then are distributed to the member telephones.

The following paths indicate where to configure hunt groups in Element Manager and through Telset Administration:

- Element Manager: Configuration > Telephony > Hunt Groups
- Telset interface: **CONFIG > System prgrming > Hunt Groups.

Configuring Hunt Groups navigation

- Configuring Hunt Group general settings (page 81)
- Adding members to Hunt Groups (page 85)
- Deleting members from Hunt Groups (page 85)
- Changing order of members in Hunt Groups (page 86)
- Assigning lines to Hunt Groups (page 86)
- Deleting lines from Hunt Groups (page 87)

Configuring Hunt Group general settings

When you first set up a Hunt Group, you must identify how calls are handled among the group.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Hunt Groups.**
2	On the Hunt Groups table, select the hunt group you want to configure.
3	Fill out the columns across the table as required.

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Attention: A linear hunt group DN assigned as the overflow telephone does not support having the hunt group DN assigned as an Answer DN to any hunt group member. If this occurs, the Answer DN does not ring at the hunt group telephone when an overflow condition occurs. If the hunt group DN overflow telephone whether assigned as an Answer DN to a non-group member, ensure that the Answer key for your system is set to Extended. • Aux. Ringer: If an external ringer is installed, indicate if the hunt group calls use it (select check box). • Distinct Ring: Define if incoming hunt calls have a different ring than other calls received by the member.

Attention: If you assign a distinctive ring pattern for a Hunt Group, all calls offered to telephones in the group use the assigned ring pattern. If no pattern is assigned, or if the ring pattern is lower in status than the ring pattern of the line or the telephone setting, the call uses the ring pattern with the highest status setting. Refer to the sections that describe configuring Lines and DNs for information about assigning distinctive ring patterns to lines and telephones.

--End--

Variable Definitions

Variable	Value
HG	This number identifies the hunt group to the system. This is also the number assigned to the telephone, when you add the telephone as a Hunt Group member. <01-30>
Name	Enter a logical name that describes the group function. This name also acts as calling line display for incoming calls. <alphanumeric>
DN	Add a DN. The DN number can be assigned to memory buttons on telephones that are not part of the hunt group.

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Variable	Value
Mode	Select how you want the line to present to the group. Broadcast — simultaneously rings at each non-busy telephone in the hunt group. All telephones receiving the call also display the calling line identification from the line, if the telephone or line is configured to offer that service. Any of the alerted telephones can access the call. Only one call is presented to a hunt group at a time. Other calls are queued until the first call is answered. Then the next call rings on the remaining non-busy telephones. This feature allows the call load to be continuously spread across the entire member group. Sequential — rings the first telephone in the hunt group list. If that telephone is busy, the system continues down the hunt group priority list until a non-busy telephone accepts the call. In this case, all incoming calls are processed simultaneously, and are delivered based on the priority list. With this feature, you can program your top salesperson to be the first member of the Hunt group to receive incoming calls. Rotary — the call starts at the member telephone that appears on the list after the telephone that answered the last call. If that telephone is busy, the system proceeds down the priority list until a non-busy telephone is reached. As many incoming calls can be processed as there are available telephones to accept the call, each call being presented in the described round-robin fashion. Default: Broadcast
Hunt Delay	If Mode is either Sequential or Rotary, Hunt Delay specifies how much time to delay offering a Queued call to a member telephone when that telephone becomes available. This is to provide a break period for the users between calls. <1-10> Default: 4 seconds
If Busy	Select how you want the system to respond if all lines appear as busy. Busy tone: If all lines are busy, the user receives a busy tone. Queue: If all lines are busy, the user hears ring back until an agent is available. Default: Busy tone

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Variable	Value
Queue Timeout	Select the time for a call to remain in the Hunt Group. This value defines the maximum time a call remains queued, and the maximum time to offer a call before sending it to overflow if it is not answered. If the queue times out before the call connects to a member telephone, the call is terminated. If the call has been offered to a member telephone, but is not answered when the queue times out, the call is rerouted to the overflow DN. 15, 30, 45, 60, 120, or 180 (seconds) Default: 60
Overflow	This setting determines where unanswered calls are routed after the Queue timeout occurs. If a call overflows back to the same Hunt Group, the call goes to the bottom of the queue, and is treated as a new call. Answer DNs: A linear hunt group that has defined an overflow telephone does not support having the overflow telephone assigned as an Answer DN to any hunt group member. If this occurs, the Answer DN does ring at the hunt group telephone when an overflow condition occurs. Answer DNs are set up under the Line Access heading for each DN. <any system DN> (including a Hunt Group DN) Default: Hunt Group DN
Aux. Ringer	If selected, defines whether an auxiliary ringer (if installed) rings for incoming calls to a hunt group. If cleared, the control of the auxiliary ringer falls back to the control defined on a per telephone or per line basis. <check box> Default: cleared
Distinct Ring	Select a ring pattern for the hunt group. None Pattern 2, 3 or 4 Default: None

CAUTION If you assign a distinctive ring pattern for a Hunt Group, all calls offered to telephones in the group will use the assigned ring pattern. If no pattern is assigned, or if the ring pattern is lower in status than the ring pattern of the line or the telephone setting, the call uses the ring pattern with the highest status setting. Refer to the sections that describe configuring Lines and DNs for information about assigning distinctive ring patterns to lines and telephones.

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Adding members to Hunt Groups

The lower frame of the Hunt Group panel shows a list of DNs that are assigned as members of the group, and the lines assigned to the hunt group.

Procedure steps

Step	Action
1	Click on **Configuration> Telephony> Hunt Groups**.
2	On the Hunt Groups panel, select the group where you want to add members.
3	In the Members subpanel in the lower frame, click **Add**.
4	Enter the DN for the telephone you want to add as a member.
5	Select an Appearance Type from the drop-down list.

--End--

Variable Definitions

Variable	Value
Seq No	This is the position of the telephone on the list. This is particularly important for sequential calls, which start at the top of the list, and move sequentially through the list. <Read only>
DN	This is the DN of the telephone assigned to this hunt group.
Appearance Type	Select the setting that suits the telephone and the environment. Ring only: Telephone rings when a call comes in. (7000 and 7100 digital phones and telephones that have no available programmable memory buttons with indicators) (model 7000 phones are supported in Europe only.) Appr&Ring: Appears on a button with indicator, which flashes when a call comes in, and it also rings. Appr only: Appears on a button with indicator, which flashes when a call comes in.

Deleting members from Hunt Groups

The lower frame of the Hunt Group panel shows a list of DNs that are assigned as members of the group, and the lines assigned to the hunt group. You can delete members from Hunt Groups.

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Procedure steps

Step	Action
1	Click on **Configuration> Telephony> Hunt Groups**.
2	On the Hunt Groups panel, select the group where you want to delete members.
3	In the Members subpanel in the lower frame, click the DN row to be removed.
4	Click **Delete** located under the Hunt Group Members subpanel. A warning message appears.
5	Click **Yes**.

--End--

Changing order of members in Hunt Groups

Member order within a Hunt group is important. The member order determines how a call routes through a Hunt group when the group is set to either linear or rotary mode.

Procedure steps

Step	Action
1	Click on **Configuration> Telephony> Hunt Groups**.
2	Click a member from the member list.
3	Click either the **Up** or the **Down** button. The system automatically reorders the list.

--End--

Assigning lines to Hunt Groups

Multiple lines can be assigned to Hunt groups. However, a line can only exist in one Hunt group. Programming note: Lines assigned to line buttons on individual telephones take precedence over the lines assigned to Hunt group buttons. Therefore, Nortel recommends that you do not assign lines to individual telephone DN records for telephones that are part of a Hunt group.

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Procedure steps

Step	Action
1	Click on **Configuration> Telephony> Hunt Groups**.
2	On the Hunt Groups Members subpanel, select the hunt group where you want to add lines.
3	In the Line Assignment subpanel in the lower frame, click **Add**.
4	Enter line numbers.
5	Click **Ok.**

--End--

Variable Definitions

Variable	Value
Lines	These are the lines/target lines that are assigned to the hunt group. Ensure that they also are not assigned to any of the member telephones.

Deleting lines from Hunt Groups

You can delete lines from Hunt Groups.

Procedure steps

Step	Action
1	Click on **Configuration> Telephony> Hunt Groups**.
2	On the Hunt Groups Members subpanel, select the hunt group where you want to delete lines.
3	In the Line Assignment subpanel in the lower frame, click **Delete**.
4	Click **Yes**.

--End--

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External Hunt Group calls monitoring

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Use the Silent Monitor feature to monitor external hunt group calls within a hunt group. Any two-line display telephone can be assigned as a supervisor telephone to allow this feature.

- Using a silent monitor (page 89)

Using a silent monitor

Use the Silent Monitor feature to monitor external hunt group calls within a hunt group. Any two-line display telephone can be assigned as a supervisor telephone to allow this feature.

There are two places in the Element Manager where the feature configured: Silent Monitor settings are configured on the Global Settings panel and supervisor terminals are configured on the System DNs record.

On the Telset, there are three places to set up this feature:

- Terminals&Sets > select the DN > Capabilities > SM supervisor
- Passwords > SM passwd
- System prgrming > Featr settings > Silent monitor

Procedure steps

Step	Action
1	Enter **FEATURE *550**.
2	Enter the Silent Monitor password. (Default: SILENT (745368))
3	Enter the DN for the Hunt group member you want to monitor.
4	Click **Ok**.
5	If there is an active external Hunt group call at that telephone, you are connected to the call. Once the session is established, a number of display

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key prompts allows the supervisor to silently monitor the call, or to break into the call to provide support or instruction. Refer to “Common display prompts” on page 235.

6 The display commands under the prompts allow you to use the display keys to break into the call or exit and move to another DN

Attention: Some countries require that all monitoring is preceded by a tone before monitoring begins.

Attention: If an agent is on conference call, you cannot monitor the hunt group call.

--End--

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Hospitality system configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Use the Hospitality panels to set up room telephones, and determine how they function.

The following path indicates where to configure the hospitality settings in Element Manager:

Element Manager: Configuration > Telephony > Hospitality

Complete the following procedures to configure your hospitality system.

- Setting up a hospitality system (page 91)
- Assigning a room to a set (page 92)
- Deleting a room assignment from a set (page 92)
- Setting call restrictions (by room) (page 93)
- Programming wake-up services (by room) (page 93)

Setting up a hospitality system

Use the following steps to set up a hospitality system.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Hospitality**.
2	Determine a time each day when the telephones switch to indicate that the rooms require servicing.
3	In the **Services change time** field, enter a 24:00 time designator for the service time.

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4 In the **Requires Desk Password** field, change the default password to a one- to six-digit number. Keep this password in a secure place. Change the password frequently.

5 If you want service personnel to enter a password when they dial in to indicate a room has been serviced, enter a one- to six-digit password into the Room condition password field. This field can be left blank also.

--End--

Assigning a room to a set

The Rooms context panel displays all telephones currently connected or registered to the system

Procedure steps

Step	Action
1	Click on **Configuration> Telephony> Hospitality> Rooms** tab.
2	Select the telephone DN you want to assign to a room.
3	Click in the **Room Numbe**r column, and enter the room number.
4	Select or clear the **Requires Desk Password** check box, as required.

Attention: If you select the Requires Desk Password check box, ensure that a valid desk password exists.

--End--

Deleting a room assignment from a set

Use the following step to delete a room assignment.

Procedure steps

Step	Action
1	Click on **Configuration> Telephony> Hospitality> Rooms** tab.
2	Click the **Room Number** column
3	Delete the number.

--End--

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Setting call restrictions (by room)

Use the following steps to set up call restrictions.

Procedure steps

Step	Action
1	Determine what type of calls you want to allow from telephones using the fields in the call restrictions box.
2	Click **Configuration** > **Telephony** > **Call Security** > **Restriction Filters**, create four new restriction filters that reflect the levels of service you want to allow. For instance, if a room is vacant, you can allow only emergency calls, whereas, in a suite, you can allow a full range of call services.
3	Click the number of the Filter in the Filter table you wish to create. In the Restrictions panel, click **Add**. The Add Restriction dialog box appears.
4	Enter the desired number of digits. Click **Ok**.
5	Make a note of the restrictions that you create.
6	On the Hospitality - General panel, in the Call Restrictions subpanel, enter the appropriate filter numbers beside each field.

--End--

Programming wake-up services (by room)

You can set up the room telephones to ring at preset times to act as an automatic wake-up call.

Procedure steps

Step	Action
1	Click on **Configuration> Telephony> Hospitality.**
2	In the **Wake-Up Call Settings and Expired Wake-Up Call Setting**s boxes, determine the following parameters.
3	In the **Attempts** field, select the number of times the alerter sounds, without the telephone handset being lifted, before the alarm service automatically cancels.
4	In the **Retry interval** field, select a time period (in minutes) that the system waits between repeating the wake-up alerter.
5	In the **Alarm duration** (sec.) field, select the length of time the alert sounds each time it repeats.

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6 In the **Notify DN** field, enter the DN of an administration telephone, such as the front desk telephone. When a wake-up call expires at any of the room telephones, an indication appears on the display of the telephone.

7 If you also want a tone to sound when a wake-up call expires, select the **Use tone** check box.

--End--

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Global VoIP features

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

The two global IP feature panes provide a quick access feature menu and customized display labels for IP telephone memory buttons.

Global VoIP features navigation

- Configuring IP features list (page 95)
- Setting up feature access (page 95)
- Using the Hot desking feature (page 97)
- Configuring a new time zone on a remote IP phone (page 99)
- Downloading firmware (page 100)

Setting up feature access

Use the following procedures to set up and access features through your IP phones.

Configuring IP features list

You can add and modify the features that display on the IP telephone feature list, which is accessed through the Services button or by using FEATURE *900.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Global Settings > IP Terminal Features > Feature List** tab.
2	Click **Add**.
3	In the **Add Feature** dialog box enter a feature name.
4	Enter the **Feature Code**.
5	Click **OK** to save the new setting.

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--End--

Accessing features through Services button

To access the features by using the service button, complete the following procedure.

Procedure steps

Step	Action
1	Press the **Services** button, Feature *900, or the button to which the list is assigned.
2	Use the up and down directional buttons on the telephone, or the Page + and Page - display keys, to move through the list to find the feature you want.
3	Press the **Select** display key to activate the feature.
4	Use the feature as you would on any other telephone. For example, if you selected Call Forward, enter the number you to which you want to forward the call. Or, if you select speed dial (FEATURE 0), enter the speed dial code for the number you want the telephone to dial.

--End--

Defining a key label for a feature

When your IP telephone acquires a DN record, the default settings are applied to the telephone, including assigning features to the memory keys on the telephone. These features all have predefined labels, and the telephone automatically displays the appropriate labels beside the programmed buttons. This screen enables you to change the soft display label for features assigned to the memory keys beside the displays for IP telephones. Use this screen to define custom labels for 24 features. The system comes with sixteen default labels, which are feature- and language-specific, depending on the system-assigned country or region profile. Typically, the default labels are messaging and call attendant features. You can change any other feature label by adding to this list, or by deleting any of the default settings and inserting new codes and labels.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Global Settings > IP Terminal Features > Key Labels.**

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2 Select the number of the feature you want to label.

3 Enter the **Feature Code** to program for that key.

4 Enter the text to appear as the text on the key label field.

Some features, such as Page and System Wide Call Appearances (SWCA), have several variations of feature invocation that you can customize for users.

--End--

Variable Definitions

Variable	Value
No	System number; identifies a label <read-only>
Feature Code	Assignable feature code <feature code>
Key Label	Each code has a default label. To change a label, click the field, then enter a maximum of eight characters, including spaces. <text label>

Using the Hot desking feature

You can transfer your IP telephony configuration temporarily from one IP telephone to another using the Hot desking feature. Hot desking requires that you set up a password and permission on the originating telephone, and activate Hot desking from a target telephone.

Setting up a password for Hot desking

Set up the password on the originating telephone. This process also allows you to determine if you want the telephone to be able to be diverted.

Procedure steps

Step	Action
1	Enter **FEATURE *999**.
2	Press **ADMIN**.
3	Enter a new password, or change an existing password.
4	Press **OK**.
5	Confirm the new password.
6	Press **OK**.
7	Press **CHANGE** to toggle between **Allow** or **Disallow** Hot desking.

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8	Press **QUIT** to exit.

--End--

Resetting the Hot desking password

Reset the Hot desking password through system programming. This enables users who forget their passwords to re-enter Hot desking and to reset their password.

Procedure steps

Step	Action
1	In Element Manager, access the reset button at **Configuration > Resources > Telephony Resources > IP Sets >IP Terminal Details**
2	Select an IP telephone from the list.
3	Click **Reset Hot Desking Password**. The password resets to Null. The user can enter Hot desking again to enter a new password.

--End--

Diverting an IP phone configuration

Perform this procedure on the target telephone at which the diverted calls are to be answered.

Prerequisites

- Ensure both telephones are on-hook before attempting to activate this feature.

Procedure steps

Step	Action
1	Enter **FEATURE *999**.
2	Press **DIVERT**.
3	Enter the DN of the telephone you want to divert to this telephone.
4	Press **Ok**.
5	Enter the password of the diverted telephone.
6	Press **Ok**.

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The buttons on your telephone mimic the buttons configured on the diverted set. The diverted telephone indicates that it is diverted, and it cannot be used until Hot desking is cancelled.

--End--

Cancelling Hot desking from the diverted phone

You can cancel Hot desking from the originating telephone.

Prerequisites

- Ensure that both telephones are on-hook before cancelling Hot desking.

Procedure steps

Step	Action
1	Press the display key under the **CANCEL** prompt on the diverted telephone.

--End--

Cancelling Hot desking from the target phone

You can cancel Hot desking from the live telephone.

Prerequisites

- Ensure that both telephones are on-hook before cancelling Hot desking.

Procedure steps

Step	Action
1	Access **FEATURE *999**.
2	The set displays the following message- Cancel hot desking? Select **Yes**.

--End--

Configuring a new time zone on a remote IP phone

If the IP telephone connects to the system from a different time zone than the system, you can reset the telephone to display the correct local time.

Procedure steps

Step	Action

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1 At the telephone, enter **FEATURE *510**.

2 Press **CHANGE**.

3 Press * to toggle between + (plus) and - (minus). Use + if local time is ahead of system time; typically, you use + when the system is west of the local site.

4 Enter the number of hours difference.

5 Press **OK**.

The telephone is still configured to change when Daylight Savings Time occurs, if the host system is programmed to change. Therefore, if the telephone is in an area that stays on Standard Time year round (for example, Saskatchewan, Canada), you must readjust the time on your IP telephone at each time change. You must also readjust the time if the IP telephone is in a time zone that changes, and the system is not (for example, if the telephone is in Alberta, Canada, and the system is located in Saskatchewan).

--End--

Downloading firmware

Firmware is the software stored in the telephone. When the system is upgraded with a new IP telephone firmware load, this firmware load automatically downloads into the IP telephones when the telephones next connect to the system.

Forcing firmware download to a Nortel IP phone

The IP Terminal Details subpanel has a Force firmware download button that enables you to initiate an immediate download to a telephone. You force a download in situations where troubleshooting suggests that a particular telephone has corrupted firmware

Procedure steps

Step	Action
1	In Element Manager, access the reset button from **Configuration > Resources > Telephony Resources > Select the IP set row >Terminal Details tab**
2	Select the **IP Terminals Details** button.
3	Click the **Force Firmware Download** button. The system drops any active call on that telephone, and downloads a new firmware load into the selected telephones. The telephone is unusable until the download is complete, and the telephone has reset.

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--End--

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Telephony features configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Some features are set for all telephones and devices, and some features are set on an individual basis in the DN record.

Telephony features configuration procedures

Use the following procedures to configure telephony features. To link to any procedure, see Configuring telephony features navigation (page 103).

Configuring telephony features navigation

- Adjusting contrast through Element Manager (page 104)
- Adjusting contrast through the telephone set (page 104)
- Adjusting contrast through the telset interface (page 104)
- Configuring the call dialing method through Element Manager (page 105)
- Configuring the call dialing method through the telephone set (page 105)
- Configuring the call dialing method through the telset interface (page 106)
- Configuring the language in the display through Element Manager (page 106)
- Configuring the language in the display through the telephone set (page 107)
- Adjusting the receiver volume through Element Manager (page 107)
- Adjusting the receiver volume through the telephone set (page 107)
- Enabling and disabling the auxiliary ringer for lines (page 108)
- Enabling and disabling the auxiliary ringer for telephones (page 108)
- Enabling and disabling the auxiliary ringer for ring groups (page 108)
- Enabling and disabling the auxiliary ringer for hunt groups (page 109)

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Adjusting contrast through Element Manager

Use the following procedure to adjust the contrast on sets through Element Manager.

Procedure steps

Step	Action
1	Click on **Configuration > Telephony > Sets > All DNs > Capabilities and Preferences.**
2	From the list, select the DN you wish to modify. The details pane appears.
3	Select **Preferences** from the details pane.
4	Select the contrast level you want to apply from the **Contrast** field. Options range from 1-9.

--End--

Adjusting contrast through the telephone set

Use the following procedure to adjust the contrast on sets through the telephone set.

Procedure steps

Step	Action
1	Press **FEATURE *7**.
2	Press a number from 1 to 9 (depending on your telephone).
3	Press **Ok** to set your choice.

--End--

Adjusting contrast through the telset interface

Use the following procedure to adjust the contrast on sets through the telset interface.

Procedure steps

Step	Action
1	Press ****CONFIG.**

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2 Enter the **User ID** and **password**.

3 Press **Terminals and Sets**

4 Enter the DN of the set.

5 Press **User preferences > Display cntrs**t.

6 Press the **Up** or **Down** buttons to change the contrast until it is set to the desired level.

--End--

Configuring the call dialing method through Element Manager

Use the following procedure to select the call dialing method through Element Manager. Options include Standard dial, Automatic dial, and Pre-dial. Not all telephone sets support all three options.

Procedure steps

Step	Action
1	Click on **Configuration > Telephony > Sets > All DNs > Capabilities and Preferences.**
2	Select the DN you wish to configure. The details pane appears.
3	Click on **Preferences.**
4	Select the dial out option you want from the **Dialing options** field.

--End--

Configuring the call dialing method through the telephone set

Use the following procedure to select the call dialing method through the telephone set. Options include Standard dial, Automatic dial, and Pre-dial. Not all telephone sets support all three options.

Procedure steps

Step	Action
1	Press **FEATURE *82**.
2	Press # to cycle through the modes.
3	Press **Ok** to store the mode.

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--End--

Configuring the call dialing method through the telset interface

Use the following procedure to select the call dialing method through the telset interface. Options include Standard dial, Automatic dial, and Pre-dial. Not all telephone sets support all three options.

Procedure steps

Step	Action
1	Press ****CONFIG.**
2	Enter the **User ID** and **password**.
3	Press **Terminals and Sets**
4	Select the **DN** of the set.
5	Press **User preferences > dialing opt'ns**.

--End--

Configuring the language in the display through Element Manager

Use the following procedure to configure the display language through Element Manager.

Procedure steps

Step	Action
1	Click on **Configuration > Telephony > Sets > All DNs > Capabilities and Preferences.**
2	From the list, select the DN you wish to modify. The details pane appears.
3	Select **Preferences** from the details pane.
4	Select the language you wish to display on the telephone display from the **Language** field.

--End--

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Configuring the language in the display through the telephone set

Use the following procedure to configure the display language through the telephone set

Procedure steps

Step	Action
1	**FEATURE *501** to select Primary Language for the telephone display.
2	**FEATURE *502** to select Alternate Language for the telephone display.
3	**FEATURE *503** to select Alternate Language for the telephone display.
4	**FEATURE *504** to select Alternate Language for the telephone display (not available on all country profiles).

--End--

Adjusting the receiver volume through Element Manager

Use the following procedure to adjust the ringer volume through Element Manager

Procedure steps

Step	Action
1	Click on **Configuration > Telephony > Global Settings > Feature Settings > Receiver volume.**
2	Select whether you want the ringer volume to be adjusted by the set or by the system.

--End--

Adjusting the receiver volume through the telephone set

Use the following procedure to adjust the ringer volume through the telephone set

Procedure steps

Step	Action
1	Use the rocker switch under the dialpad to change the sound levels heard through your handset. This also changes the volume levels during handsfree calls.

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--End--

Configuring the auxiliary ringer (option)

Use the following procedures to configure the auxiliary ringer.

Enabling and disabling the auxiliary ringer for lines

Use the following procedure to enable or disable an auxiliary ringer for lines.

Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Lines**
2	Select a line.
3	Select the **Preferences** tab.
4	Select or clear the **Aux. ringer** check box.

--End--

Enabling and disabling the auxiliary ringer for telephones

Use the following procedure to enable or disable an auxiliary ringer for telephones.

Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Sets > Active Sets > Capabilities and Preferences > Preferences**.
2	Select a line.
3	In the line settings pane, select or clear the **Aux. ringer** check box.

--End--

Enabling and disabling the auxiliary ringer for ring groups

Use the following procedure to enable or disable an auxiliary ringer for ring groups

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Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Ring groups > Line settings.**
2	Select a line.
3	In the Line Settings pane, select or clear the **Aux. ringer** check box.

--End--

Enabling and disabling the auxiliary ringer for hunt groups

Use the following procedure to enable or disable an auxiliary ringer for hunt groups

Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Hunt Groups.**
2	Select a Hunt Group.
3	Select or clear the **Aux. ringer** check box beside the hunt group you want to modify.

--End--

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Set access to call answer features configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Incoming calls can be handled in a number of ways. Configure sets to answer calls using the available features.

Configuring set access to call answer features navigation

- Configuring for calls direct to set (page 112)
- Configuring for calls not direct to set (page 113)
- Configuring for answering any call (page 114)
- Configuring answer DNs (page 117)
- Configuring privacy (page 118)
- Intrusion controls configuration (page 120)
- Configuring call hold (page 121)
- Configuring call transfer (page 122)
- Configuring call redirect (page 123)
- Configuring call forward (page 124)
- Configuring the call camp-on timer (page 125)
- Setting up the call park access code (page 126)
- Setting up park timeout (page 127)
- Determining call park code assignment sequence (page 127)
- Allowing Malicious Caller ID (ETSI ISDN) (page 131)
- Configuring call logs (page 132)

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Configuring for calls direct to set

If a call comes into a designated line button, you press that button to answer the call. If there are no line buttons on your telephone, or the call rings but no line buttons light up, choose one of three ways to answer a call at your telephone:

- lift the receiver.
- press the Handsfree button and speak through the external speaker.
- answer through a headset.

Calls can also have special ring tones, depending on distinctive ring values for the lines and the telephone.

Attention: The handsfree button and the headset are not available on all telephones.

Configuring for calls direct to set procedures navigation

- Configuring handsfree and handsfree answerback (page 112)

Configuring handsfree and handsfree answerback

Enable Handsfree (HF) to use the telephone speakers or a headset.

Enable HF answerback to allow users to answer a call without lifting the handset, or to use a headset.

This feature is set on a per-telephone basis through Element Manager.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets**.
2	Select the DN record for the telephone for which you want to enable or disable handsfree.
3	Click the **Capabilities and Preferences** tab.
4	In the bottom frame, click the **Capabilities** tab.
5	Select or clear the **HF answerback** check box.
6	Set the **Handsfree** field to **Auto**, **Standard**, or **None**.

--End--

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Configuring for calls not direct to set

There are a number of features you can use to answer incoming calls that do not come directly to your line or intercom buttons. Use the following features to answer these calls.

Configuring for call not direct to set procedures navigation

- Configuring call queuing (page 113)
- Configuring Directed Pickup (page 113)
- Adding a set to a pickup group (page 114)

Configuring call queuing

This feature allows you to answer the next incoming call on your telephone, based on call priority.

Call priority is based on waiting time. The caller that has waited the longest is answered first.

Procedure steps

Step	Action
1	Press **FEATURE 801** to enable call queuing on the telephone set.

--End--

Configuring Directed Pickup

This feature allows a user to answer any ringing telephone in the system. By default, this feature is enabled.

Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Global Settings > Feature Settings**.
2	Select or clear the **Directed Pickup** check box to enable or disable the feature.
3	Enter **FEATURE 76** on your telephone set.
4	Enter the DN of the ringing telephone to answer it from your phone.

--End--

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Adding a set to a pickup group

This feature allows the user to answer calls on another telephone in the same pickup group.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets**.
2	Select the DN record for the telephone for which you want to enable or disable Pickup Group.
3	Click the **Capabilities and Preferences** tab.
4	In the bottom frame, click the **Capabilities** tab.
5	In the **Pickup group** field, enter a group number.
6	Enter **FEATURE 75** on the telephone set. The external call that has been ringing the longest is answered first.

--End--

Configuring for answering any call

There are a number of features you can use to answer incoming calls. Use the following features to answer calls.

Configuring for answering any call procedures navigation

- Assigning a set to a ring group (page 114)
- Creating a ring group schedule (page 115)
- Blocking set access to trunk answer (page 117)

Assigning a set to a ring group

Assigning telephones to ringing groups provides a way to ensure that all calls can be answered, regardless of the time of day, or day of the week. The most common use of this feature is when a security desk telephone rings for incoming lines after 5:00 p.m., a practice often called night service.

Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Ring Groups**.
2	Select the ring group that you want to add a DN to.
3	Select the **Group Membership** tab.

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4	Click **Add** under the Members pane.
5	Enter the DN for the set you want to add to the ring group.
6	Click **OK**.

--End--

Creating a ring group schedule

Use the following procedure to create a ring group schedule.

Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Scheduled Services**.
2	In the Schedule pane, select the schedule you want to modify.
3	In the Schedule Times pane, select the day you want to modify.
4	Click on the **Start Time** to set the start time, or **Stop Time** to set the stop time.
5	Click **OK**.
6	In the **Services** pane, select the same schedule you modified.
7	Ensure that **Ringing Svc** is set to **Manual** or **Auto**.

--End--

Configuring ring group line settings

The Line Settings tab allows you to schedule where calls coming in on a specific line, or target line, ring during a scheduled period.

There are two frames on this pane:

The top pane displays all lines that are available for programming as part of the ring group. This does not include VoIP trunks and PRI lines. For both these types of lines, you would use target lines.

When you select a line on the top pane, the Lines Settings details pane appears in the bottom. Use this table to specify schedule settings for each line.

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Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Ring Groups.**
2	Select the **Line Settings** tab.
3	Select the line you want to modify. The Line Setting detail pane appears.
4	In the **Ring Group** box, type a ring group number.
5	Select the **Aux. Ringer** check box, if you want the auxiliary ringer enabled.

--End--

Variable Definitions

Variable	Value
Line Settings Tab	
Line	This list includes all analog and digital lines plus the target lines (PRI and VoIP lines). Program only those that are active on the system.
Line Setting pane	
Schedule	You only need to configure the schedules that you use for your system. <read-only>
Ring Group	Type in a ring group number (001-100). Only one ring group can be assigned to a line for each schedule. To combine groups of ringing sets, you must create a new Ring Group that contains all the sets you want to ring, and assign it to the line.
Aux. Ringer	This variable indicates whether the auxiliary ringer (if installed) also rings when Ringing service is on. Tips: The default ringing telephone is 221 (Start DN). This means that all lines ring at telephone 221 when Ringing service is on. If you have an auxiliary ringer programmed to ring for calls on an external line, and you transfer a call on that line without announcing the transfer, the auxiliary ringer rings for the call transfer.

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Blocking set access to trunk answer

The trunk answer feature is only active when a ringing service schedule is running. It allows a user to answer a ringing call in any area in the system, from any telephone in the system. The line being answered does not have to appear, or ring, at the telephone being used to answer the call.

Use this procedure to block a set from using this feature.

Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Sets > All DNs**.
2	Select the DN record for the telephone for which you want to restrict trunk answer.
3	Click the **Restrictions** tab.
4	Under the **Set Lock** field, select **Full**.

--End--

Configuring answer DNs

Telephone DNs can be assigned to indicator buttons on other telephones to provide backup answering. You can assign a maximum of eight answer DNs to a telephone. You cannot assign Answer DNs to analog telephones, or to Model 7000 or 7100 telephones.

Configuring answer DNs procedures navigation

- Defining which calls must alert answer DNs (page 117)
- Assigning an answer DN to a set (page 118)

Defining which calls must alert answer DNs

You can determine what type of calls alert at an assigned Answer DN key. This is a system setting, so all Answer DNs behave the same.

There are three answer key levels: Basic, Enhanced, and Extended. If your system supports overflow routing of calls (for example, Hunt groups), the setting is Enhanced or Extended. Alternatively, if Contact Center telephones are assigned Answer DNs, this setting must be Basic.

Do not change this setting unless you understand the impact on the other telephone groups in your system.

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Procedure steps

Step	Action
1	In Element Manager, click on **Configuration > Telephony > Global Settings > Feature Settings.**
2	Select **Basic**, **Enhanced**, or **Extended** from the **Answer keys** field.

--End--

Assigning an answer DN to a set

Answer DNs are assigned on a per-telephone basis by the system administrator.

Prerequisites

- Ensure that the telephone you want to assign with Answer DNs has available memory buttons with indicators.

Procedure steps

Step	Action
1	**Click Configuration > Telephony > Sets > Active Sets**.
2	Under the **Line Access** tab, choose the DN record for the telephone where you want to add Answer DNs.
3	In the bottom pane, click the **Answer DNs** tab.
4	Click **Add**. The Add Answer DN dialog box appears.
5	Enter the **DN**.
6	Click **OK** to save the record.
7	In the Appearance Type field select **Appear and Ring** or **Appear only**.

--End--

Configuring privacy

To maintain your privacy, or if you do not want to be disturbed, you can choose not to answer a call, or you can use one of the features described below.

If you choose not to answer the call, the Delayed ring transfer setting determines how many rings occur before the call is transferred to the prime telephone.

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Configuring privacy procedures navigation

- Allowing do not disturb on a set (page 119)
- Blocking set access to the DND feature (page 119)
- Configuring privacy for a physical line (page 119)
- Programming a line to automatically enable privacy (page 120)

Allowing do not disturb on a set

Do Not Disturb prevents voice calls from alerting at your telephone. Voice calls appear as normal intercom calls.

Procedure steps

Step	Action
1	Press **FEATURE 85** to activate the feature.
2	Use **FEATURE #85** to cancel DND.

--End--

Blocking set access to the DND feature

You can block access to this feature for any set.

Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Sets > All DNs > Restrictions**.
2	In the **Set Lock** field, select **Full**.

--End--

Configuring privacy for a physical line

When you have lines assigned to more than one telephone, anyone with the line appearance can answer a call, or join a call in progress. To provide exclusive access for a user, you can program privacy on a line, in which case, only one person at a time can use the line. (This does not apply to target lines).

Procedure steps

Step	Action

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1. In Element Manager, click **Configuration > Telephony > Lines > Active Physical Lines.**
2. Choose the line for which you want to assign privacy.
3. In the bottom panel, click **Preferences**.
4. Beside **Trunk mode**, choose **Unspr** (unsupervised).

--End--

Programming a line to automatically enable privacy

You can program some lines to make a call private automatically.

Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Lines > Active Physical Lines**.
2	Select the line that you want to automatically enable privacy.
3	In the bottom panel, click the **Preferences** tab.
4	Select the **Auto privacy** check box. If the line is part of a line pool, ensure that all other lines in the pool also have this feature enabled.

--End--

Intrusion controls configuration

If your system is part of a private network that uses the Meridian call attendant on a centralized voice mail system, the attendant can use the break-in feature to interrupt a call, regardless of any other settings on your line. The exception is if you have a higher intrusion priority than the attendant. If this is the situation, the attendant is forced to camp the call at your telephone, or redirect the call elsewhere in the system.

Configuring intrusion controls

This feature is set on a per-telephone basis.

Procedure steps

Step	Action
1	Determine the intrusion level of the attendant telephone.

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2	In Element Manager, click **Configuration > Telephony > Sets > Active Sets**.
3	Select the DN record for the telephone for which you want to change the intrusion level.
4	Click the **Capabilities and Preferences** tab.
5	In the bottom panel, click the **Capabilities** tab.
6	Enter the **Intrusion protection level**.

--End--

Configuring call hold

After you answer a call, you can transfer the call, look up some information, or answer another call. Use the Hold feature to place a call on hold.

Configuring call hold procedures navigation

- Configuring full autohold on a line (page 121)
- Configuring autohold on a set (page 121)

Configuring full autohold on a line

A line or the telephone can be programmed to automatically place an active call on hold while answering another call, or placing a call.

Model 7100 and 7000 telephones, which do not have line keys, also use the HOLD key to toggle between active calls.

Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Lines > Active Physical Lines**.
2	Select the line record for which you want to enable Full autohold.
3	Click the **Preferences** tab.
4	Select the **Full autohold** check box.

--End--

Configuring autohold on a set

Use the following procedure to enable autohold on a set.

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Procedure steps

Step	Action
5	In Element Manager, click **Configuration > Telephony > Sets > Active Sets**.
6	Click the **Capabilities and Preferences** tab.
7	Click the **Capabilities** tab.
8	Select the **Auto hold** check box.

--End--

Configuring call transfer

Calls coming in can be transferred after they are answered, or automatically transferred if they are not answered at the target telephone.

Configuring call transfer procedures navigation

- Configuring transfer of unanswered calls (page 122)
- Configuring Callback (page 122)

Configuring transfer of unanswered calls

Telephones which do not use call forward to a voice mail system, can be programmed to forward unanswered external calls to a designated prime telephone.

Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Sets > Active Sets > Line Access**.
2	Select the DN of the set to which you want to transfer the calls.
3	In the **Fwd No Answer** field, enter the number of the telephone to which incoming calls are to be redirected.

--End--

Configuring Callback

When you direct an answered call to another telephone, the system monitors the call to ensure it is answered. If no one answers the call within a set length of time, the system returns the call to you.

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Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Global Settings > Feature Settings**.
2	In the **Timers** subpanel, select the number of rings from the **Transfer callback timeout** field.

--End--

Configuring call redirect

When you answer a call, you can redirect the line to an external number. When redirected, all incoming calls on that line are directed to the external number. You can configure a tone to sound on your telephone when a redirection occurs.

Lines can also be redirected through system programming. In this case, redirection can be removed only through system programming.

Configuring call redirect procedures navigations

- Allowing call redirect (page 123)
- Programming call redirection on a line (page 124)
- Adjusting the call redirect tone (page 124)

Allowing call redirect

You can enable the redirect feature on a telephone-by-telephone basis.

Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Sets > Active Sets**.
2	Select the DN record for the telephone for which you want to allow the redirect feature.
3	Click the **Capabilities and Preferences** tab.
4	Click the **Capabilities** tab.
5	Select the **Allow redirect** check box.

--End--

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Programming call redirection on a line

To program call redirection on a line use the following procedure.

Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Lines > Active Physical Lines**.
2	Select the line you want to redirect (ensure that the line is not in a line pool).
3	Click the **Preferences** tab.
4	In the **Redirect to** list, enter the number that you want to redirect the calls to.
5	Enter a remote number. Ensure that the routing codes are included.
6	To turn off redirect, delete the remote number from the field.

--End--

Adjusting the call redirect tone

You can cause a short ring to occur when a line is redirected using **FEATURE 84**. This is set for each telephone.

Procedure steps

Step	Action
7	In Element Manager, click **Configuration > Telephony > Sets > Active Sets**.
8	Select the DN record for the telephone for which you want to modify the redirect tone.
9	Click the **Capabilities and Preferences** tab.
10	Click the **Capabilities** tab.
11	Select the **Redirect ring** check box.

--End--

Configuring call forward

You can set up a telephone to send calls to another telephone automatically, or to a voice mailbox if the telephone is not answered, or if it rings busy. This feature can be programmed from the system for each telephone, as well as at the telephone.

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Configuring call forward procedures navigation

- Configuring forwarding of unanswered calls (page 125)
- Blocking set access to call forwarding (page 125)

Configuring forwarding of unanswered calls

Using system programming, you can forward calls internally or externally if the telephone is unanswered, if the telephone is busy, or you can forward all calls to an external number.

Procedure steps

Step	Action
1	Determine the dial string for the telephone to which the calls are to be forwarded. Include routing codes if the telephone is external to the system.
2	Click **Configuration > Telephony > Sets > Active Sets > Line Access**.
3	Select the DN record for the telephone for which you want to configure call forward.
4	Enter the dial string where to forward the call. Ensure that this entry is less than the **Delayed ring transfer** setting.

--End--

Blocking set access to call forwarding

You can block the user from using the call forward feature by setting the Set Lock for the telephone to Full.

Procedure steps

Step	Action
1	In Element Manager, click **Configuration > Telephony > Sets > All DNs > Restrictions**.
2	In the **Set Lock** field, select **Full**.

--End--

Configuring the call camp-on timer

The system camps a call for a specified length of time before it returns the call to the original answering telephone.

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Procedure steps

Step	Action
1	Select **Configuration > Telephony > Global Settings > Feature Settings**.
2	In the **Timers** subpanel, from the **Camp timeout (sec.)** list, select a time.

--End--

Configuring call park

You can park a call on the system that can be accessed from any telephone on the system.Calls are parked on a three-digit park code. The first digit of the code is a system access code. The last two digits range from 01 to 25. (FEATURE 74).You can also set a delay period for when the call returns to the telephone from which it was parked; under Configuration > Telephony > Global Settings > Feature Settings. You can also determine the order used to assign the codes (Park mode).

Configuring call park procedures navigation

- Setting up the call park access code (page 126)
- Setting up park timeout (page 127)
- Determining call park code assignment sequence (page 127)
- Sharing calls by parking on SWCA buttons (page 127)

Setting up the call park access code

The Park prefix is the first digit of the call park retrieval code that a user enters to retrieve a parked call. If the Park prefix is set to None, calls cannot be parked.

- This park prefix must be unique from any other access code.
- If this field is set to None, the system-wide call appearance (SWCA) feature will not work.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Dialing Plan > General**.
2	In the Access Codes subpane from the Park prefix list, select the first digit of a three-digit park code.

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--End--

Setting up park timeout

Determine how many minutes the system waits between parking a call and returning the call to the original answering telephone.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Global Settings > Feature Settings**.
2	In the **Timers** subpane from the **Park timeout (sec.)** list, select the time for the call to remain parked.

--End--

Determining call park code assignment sequence

Determine how the system assigns a retrieval code to parked calls. If Lowest is selected, the system chooses the lowest code that is available when the call is parked. If Cycle is selected, the system chooses the codes in a sequence, from lowest to highest, until all the codes have been used, then starts at the lowest code again.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Global Settings > Feature Settings**.
2	In the **Feature settings** subpanel, from the **Park mode** list, select the desired setting.

--End--

Sharing calls by parking on SWCA buttons

System wide call appearance (SWCA) keys allow you to control call park and retrieval features on any type of line across the local system. These features expand the BCM call park and call retrieve features by providing visual indications of the status of any call parked on an SWCA button with indicators. The calls can also be controlled by directly entering the SWCA feature codes.

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You can use SWCA programming to define logical groups of telephones. Each group can be assigned a set of the SWCA codes, which allows them to pass calls within the group. Each telephone in the group also displays the current status of the call, so users can determine which calls are being handled.

The following procedure describes how to perform the system configuration for the SWCA feature.

Procedure steps

Step	Action
1	Check that the Call Park Access code has a digit entered as a value. Programming note: If the value is set to None, the SWCA feature does not work.
2	Choose one of the following configurations for the SWCA controls for your system **Configuration > Telephony > Global Settings > Advanced Feature Settings > System Wide Call Appearance Control.**
3	Configuration one: If you want all incoming calls to auto-associate to SWCA assignments on the receiving telephone: a) To auto-associate SWCA key to call, select **Automatically - life of call.** b) To include I/C calls when auto-associating, select the check box. c) To invoke SWCA parking by Hold, select the check box. d) To include I/C calls when invoked by Hold, select the check box.
4	Configuration two: If you want incoming calls to auto-associate to SWCA assignments on the receiving telephone, but you want calls on hold to remain on hold at the receiving telephone, unless the user presses a SWCA button, or enters a SWCA code: a) To auto-associate SWCA key to call, select the **Automatically - life of call**. b) To include I/C calls when auto-associating, select the check box. c) To invoke SWCA parking by Hold, clear the check box. d) **Include I/C calls when invoked by Hold** is not applicable in this configuration.
5	Configuration three: If you want external incoming calls to auto-associate to SWCA assignments on the receiving telephone, but you want all intercom calls to require manual parking: a) To auto-associate SWCA key to call, select the **Automatically - life of call**. b) To include I/C calls when auto-associating, clear the check box. c) To invoke SWCA parking by Hold, select the check box. d) To include I/C calls when invoked by Hold, clear the check box.
6	Configuration four: If you want all calls to require the user to press a SWCA button, or enter a SWCA code: a) To auto-associate SWCA key to call, select either **Manually - while parked or Manually - life of call**. b) **To include I/C calls when auto-associating**T is not applicable in this

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configuration.
c) To invoke SWCA parking by Hold, clear the check box.
d) To include I/C calls when invoked by Hold is not applicable in this configuration.

7 Configure the SWCA keys to indicator memory buttons on the telephones.

8 Label the buttons.

9 Let the users know how the SWCA buttons work, and which SWCA codes are available to them.

Attention: A user can park a call on any SWCA code; however only SWCA codes assigned to a telephone can be used to retrieve SWCA calls.

--End--

Variable Definitions

Variable	Value
Auto-associate SWCA key to call	Manually - while parked: The user either presses a free SWCA key on the telephone, or dials the feature code for a free key. Once the call is retrieved, it is unassigned from the SWCA key. Manually - life of call: The user either presses a free SWCA key on the telephone, or dials the feature code for a free key. When the call is retrieved, it remains assigned to the SWCA key. The key is freed only after the call is terminated. Automatically - life of call: When a call is answered, it is automatically assigned to a free SWCA key, starting with the lowest available number. When the call is retrieved, it remains assigned to the SWCA key. The key is freed when the call is terminated. Select how a call is parked on a SWCA ke.y Default: Manually - while parked.
Include I/C calls when auto-associating	Select if you want intercom calls to automatically park on SWCA keys. <check box>

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Variable	Value
	If you select the check box... **Auto-associate SWCA key to call** must be set to **Automatically - Life of call** for this feature to work. When the user makes a call using the intercom button, the call automatically associates with a free SWCA key, and remains assigned for the duration of the call. If you do not select the check box... The user must assign manually an intercom call to a SWCA key. The call will behave according to the rules of the choice made for **Auto-associate SWCA key to call**.
Invoke SWCA parking by Hold	Select whether calls that are placed on hold are assigned automatically to a SWCA key. If you select the check box... When the user presses Hold, the system attempts to repark the call on the current SWCA key assigned to the call, or on a free SWCA key programmed on the telephone. If no SWCA key is currently associated with the call (Automatically - life of call is not selected), and there is no free SWCA key to assign to the call, the call remains on Hold on the line on which it enters. **Note:** In this case, the call is not available to other telephones in the group until it can be assigned to a SWCA key, or unless they have the same line appearance as the held call. If you do not select the check box... There is no interaction with SWCA keys. The call remains on Hold on the line on which it enters, and is not available to other telephones in the SWCA group, unless the user manually assigns the call to a SWCA key, or unless those telephones have the same line appearance as the held call.
Include I/C calls when invoked by Hold	Select whether intercom calls, put on Hold, are assigned automatically to a SWCA key.

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Variable	Value
	If you select the check box... Invoke SWCA parking by Hold must be checked to activate this feature. When the user makes an intercom call, and puts it on Hold, the call works in the same manner as described in **Invoke SWCA parking by Hold**, selected. If you do not select the check box... Intercom calls are held on the local line, regardless of whether you select the Invoke SWCA parking by Hold. If the intercom call is assigned to a SWCA key automatically, you can press the SWCA key to repark the call, and make it available to other telephones in the group. If you manually assign the intercom call to a SWCA key, the call is parked automatically, and it becomes available to the rest of the group.

Allowing Malicious Caller ID (ETSI ISDN)

This feature records caller information at the central office for the last external call on the active ETSI ISDN line. This feature must be available from your service provider before you can activate it in your system.

If this service is active on the line, you must press FEATURE 897 within 30 seconds after a caller hangs up, and before you hang up.

This feature is available only on an ETSI ISDN line.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Dialing Plan > Private Network.**
2	In the **ETSI** subpanel, set the parameters.

--End--

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Variable Definitions

Variable	Value
Network Diversion	Allows you to choose if you want to allow calls to be redirected to an outside network.
MCID	If you select this check box, the called party can use FEATURE 897 to request the service provider network to record the identity of an incoming call. Including: • called party number • calling party number • local time and date of the activity • calling party sub-address, if provided by the calling user The feature code must be entered within 25 seconds of the caller hanging up (a 25-second busy tone occurs). If the called party hangs up first, there is no opportunity to use the feature. The call identification comes from your service provider, not the local system. You must have the service activated by the CO before the feature is active for the user, regardless of the setting in this field.

Configuring call logs

If your system has the appropriate equipment, and you subscribe to the call information feature supplied by your service provider, you can record information about calls received on an external line. The line does not need to be assigned to the telephone that receives the call in order for the information to be logged, nor does an assigned line need to be a ringing line to log a call. ISDN service packages that come with calling line identification (CLID) can supply the same feature.

Configuring call logs procedures navigation

- Resetting the call log space (page 132)
- Setting call log options (page 133)
- Resetting call log password (page 134)

Resetting the call log space

The call log space heading allows you to reallocate the Call log space equally to all telephones in your system.

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Prerequisites

CAUTION

Use this heading only if you want to allocate an equal amount of log space to all the telephones in your system. Reallocating Call log space can destroy Call log data at telephones that lose space. There are 600 Call log spaces available in the system. There are no spaces allocated by default. Changing the space allocation using Log defaults defines the log space available to all telephones in the system.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Global Settings > Advanced Feature Settings.**
2	In the **Call Log Space** subpanel, click **Reset Logs**. The Reset Call Log Space dialog box appears.
3	Enter the Space per log, and the # of sets with logs.
4	Click **OK** to reallocate the log space and clear all user logs. Click **Cancel** if you do not want to clear user logs. In this case, the call log space is not reallocated.

--End--

Variable definitions

Variable	Value
Space per log	Type a three-digit number, for example, 020, to give each set 20 spaces.
# of sets with logs	Lists the number of sets that have logs. If you click OK on this dialog, these logs are deleted.

Setting call log options

Select how you want the telephone to handle logging calls.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Sets > All DNs**.

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2 From the **Capabilities and Preferences** tab, select a DN to configure.

3 In the **Details for DN** panel, select the **Preferences** tab.

4 From the **Call log options** list, select the value.

--End--

Variable definitions

Variable	Value
No autologging	No calls are logged automatically.
Non one answered	Unanswered calls are logged.
Unanswered by me	Unanswered calls are logged.
Log all calls	All calls are noted in the call log.

Resetting call log password

Reset the password for the call log if users forget their password.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Sets > All DNs**.
2	From the **Capabilities and Preferences** tab, select a telephone to configure.
3	In the **Details for DN** panel, select the **Preferences** tab.
4	Click **Rest Call Log Password**.

--End--

Job aid: Call log notes

If your system has the appropriate equipment, and you subscribe to the call information feature supplied by your service provider, you can record information about calls received from an external line. ISDN service packages that come with calling line identification (CLID) can supply the same feature.

Call Log creates a record of incoming external calls to a telephone, even if the telephone does not have that line assigned. For each call, the log can contain:

- sequence number in the call log

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- name and number of the caller
- indication if the call is long distance
- indication if the call was answered and by whom
- time and date of the call
- number of repeated calls from the same source
- name of the line carrying the call

Call Log can help to:

- keep track of discarded calls, or calls not answered
- track patterns for your callers (for example, volume of calls and geographic area of calls)
- record caller information quickly and accurately
- build a personal telephone directory from log items

Information, such as long distance indicator and the caller name and number, may not show in the log. The appearance depends on the Call Display services provided by your local telephone company, and the local telephone company at the caller end.

Call logging limitations:

- A total of 1000 log spaces for BCM50, or 3000 for BCM450, are shared by all telephones assigned with call log space. To ensure that this list does not fill up and start rejecting logs, ensure that autobumping is enabled (FEATURE 815).
- If you answer the call and then forward it, the call logs only at the forwarding telephone.
- If call forward is set, calls log at both the forwarding telephone and the target telephone, providing the target telephone answered the call.
- If the call is released by the telephone to which the call is forwarded, only the forwarding telephone logs the call.
- Hunt group calls are logged only when a call is answered.
- If a call is redirected to and answered at the prime telephone, then the call is logged at both the redirecting telephone and the prime telephone. If the call is answered by the intended telephone, then the call is logged only at that telephone.
- If the telephone experiences a warm-reset, all log entries are flushed.
- If a line has been redirected, calls are not logged.

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Set access to calling feature programming

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Set access to calling feature programming tasks

The following topics describe the features the system user can configure, or use to place outgoing calls.

Set access to calling feature programming navigation

- Blocking user access to feature programming (page 137)
- Configuring call privacy (page 138)
- Configuring call process on busy signal (page 138)
- Configuring voice paging (page 139)
- Allowing dialing shortcuts (page 141)

Blocking user access to feature programming

You can deny users access to programming features on their sets.

Blocking set-level access to feature programming

You can block the user from using this feature key by setting the set lock for the telephone.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets> Active Sets**.
2	Select the DN record for the telephone for which you want to restrict.
3	Click the **Restrictions** tab.
4	In the **Set Lock** drop-down list select None, Partial, or Full. None - allows access to all features.

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Partial - prevents programming autodial buttons and user speed dial.
Full - no feature programming is allowed.

--End--

Configuring call privacy

Outgoing calls contain name and number information that displays on the target telephone, if this information is supported on the line, at the switch, and by the telephone. You can block this information for outgoing calls using the ONN (outgoing name and number) blocking code.

Protecting privacy of outgoing calls

Block the name and number information for outgoing calls using the ONN (outgoing name and number) blocking code.

The user can block the call information for an outgoing call using Feature 819.

To cancel ONN Blocking enter Feature #819.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Global Settings > Advanced Feature Settings**.
2	Specify a code that allows users to block outgoing name and number display over an analog tone line., analog pulse line, or BRI trunk.

--End--

Configuring call process on busy signal

The following features can be used when the internal number you dialed is busy.

- Priority call
- Ring again

Configuring call process on busy signal procedures navigation

- Configuring priority calling (page 138)
- Activating and cancelling ring again (page 139)

Configuring priority calling

Priority calling defines whether this telephone can interrupt calls or override Do Not Disturb at another telephone.

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If your call is urgent, use this code to override a busy signal, or Do Not Disturb. This feature must be enabled in programming on the initiating set. This feature is set to off by default.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Capabilities and Preferences**.
2	Select a DN.
3	Select the **Capabilities** tab in the bottom pane.
4	Select the **Priority call** check box.

To use this feature, the user can enter FEATURE 69, while the DN is ringing, or the priority softkey, on a two-line display set. You are connected directly to the other person, unless they are on another call. That person has the option of pressing FEATURE 85 (Do Not Disturb) to block the call. On two-line display telephones, the user also has the option of pressing the BLOCK SoftKey.

--End--

Activating and cancelling ring again

Use this code to have the system to notify you when a telephone you want to call is no longer busy, or becomes available.

There is no system programming to allow/disallow this feature.

Activate feature: While on the call, enter FEATURE 2.

Cancel feature: Enter FEATURE #2.

Configuring voice paging

If you are unable to reach a person by telephone, or you want to deliver the same message to more than one person, use the page feature.This feature allows you to make page announcements in various ways, depending on the audience you are trying to reach.

Feature constraints:

- Telephones that do not have external speakers can initiate pages, but cannot receive pages (7000 and 7100 digital telephones and the 2001 IP telephone).

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- Using Page with external equipment: When you make a page that uses external paging equipment (external page or combined page), the DTMF Long Tones feature automatically activates for the external paging system only, thus allowing you to control optional equipment with the DTMF Long Tones feature.
- You can have a maximum of 50 digital telephones or a maximum of 60 IP telephones in a page zone.
- Business Series Terminals note: If the active call is on mute when the page comes in, it does not return to mute when the call comes off hold after the page.This is only applicable if the set has Auto Hold for incoming page enabled. Sets cannot receive a page if the set is in use.

Configuring voice paging procedures navigation

- Configuring system-level parameters for paging (page 140)
- Configuring set-level parameters for paging (page 140)
- Configuring auto-hold on incoming pages (page 141)

Configuring system-level parameters for paging

Page is a standard system feature. However, there are two system settings that you must confirm or change, depending on your requirements.

Page announcements are programmed to time-out after a preselected amount of time that is set, by your System Administrator, under the Timers heading.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Global Settings > Feature Settings.**
2	In the Feature Settings pane, select the **Page tone** check box if you want a tone to sound before a page announcement, or if you want the page announcement to just occur.
3	On the Timers panel, in the **Page timeout** drop-down list, select the amount of time before the page automatically disconnects.

--End--

Configuring set-level parameters for paging

This procedure describes how to determine individual telephone access to the page feature and how the system handles page broadcasts.

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Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets.**
2	Click the **Capabilities and Preferences** tab.
3	Select the DN for the telephone where you want to define the page feature.
4	On the bottom frame, under the Capabilities tab, select the **Paging** check box if you want the telephone to have access to the paging feature.
5	On the bottom frame, under the Capabilities tab, beside **Page zone**, enter the number of the zone that the telephone is to be part of for pages. Enter **None** if you do not want the set to receive a page.

--End--

Configuring auto-hold on incoming pages

If this Page feature is enabled, telephones with active calls that receive internal pages have the active call placed on hold for the duration of the page. When the page message is finished, the active call is removed from hold.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Capabilities and Preferences**. Business Series Terminals note: If the active call is on mute when the page comes in, the call is not returned to mute when the call comes off hold.
2	Select the DN for the telephone where you want to define the auto-hold on incoming pages.
3	In the bottom pane, select the **Capabilities** tab.
4	Select the **Auto-hold for incoming page** check box.

--End--

Allowing dialing shortcuts

Use the following features to save time when dialing.

- Last number redial
- Saved number redial
- Autodial

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- Speed dialing

Allowing dialing shortcuts procedures navigation

- Allowing last number redial (page 142)
- Allowing saved number redial (page 142)
- Allowing auto-dial (page 143)
- Programming speed dials in the DN record (page 143)
- Programming user speed dials at the set (page 144)
- Blocking set-level access to button programming (page 145)

Allowing last number redial

If the number you want to dial is the last number dialed from your telephone, use this feature to redial the external number.

You enable last number redial for each telephone through the restriction programming.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Restrictions** tab.
2	Select the DN for the telephone where you want to define allowing last number redial feature.
3	Select **Allow Last Number** check box. To access the feature, the user must press FEATURE 5.

--End--

Allowing saved number redial

Use this feature to save a number from an existing call, or from an autodial button, so that you can call the number later. Each telephone can save only one number at a time.

Enable last saved redial for each telephone through the restriction programming.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Restrictions** tab.

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2	Select the DN for the telephone where you want to define allowing saved number redial feature.
3	Select **Allow Saved Number** check box. To access the feature, the user must press FEATURE 67.

--End--

Allowing auto-dial

You can program memory buttons for one-touch dialing of internal or external telephone numbers. When you program an external autodial, you must specify a path out of the system. You can also program autodial buttons with speed dial codes.

The Button Programming and tab panels allow you to program the buttons on a telephone with internal and external autodialers, and with programmed feature keys.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > All DNs > Capabilities and Preferences** tab.
2	Select the DN for the telephone that you want to modify.
3	Select the **Button programming** tab.
4	Choose the setting you want to modify. The Modify dialog box appears.
5	Select the Function you want to program. Note: Depending upon which Function is selected, you may also be required to select a Value and Digits.
6	Click **Ok**.

--End--

Programming speed dials in the DN record

BCM 5.0 provides two types of speed dialing:

System Speed Dial programming allows you to assign two or three-digit speed dial codes to the external numbers called most often. You can set the system to have 01 to 70 codes or 001 to 255 codes.

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User speed dial numbers can be programmed during telephone DN record configuration, or at the telephones by the users (71-94).

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > All DNs > Capabilities and Preferences** tab.
2	In the DN record, select the telephone you want to program.
3	Select the **User Speed Dial** tab.
4	Select **Add**. The Add User Speed Dial dialog box appears.
5	Enter the Speed Dial Number 71-94.
6	Click **Ok**.
7	In the **External Number** field, enter the telephone number.
8	Enter **FEATURE 0,** and the system or user speed dial code.

--End--

Programming user speed dials at the set

Procedure steps

Step	Action
1	Enter **FEATURE *4**.
2	Enter a two-digit code from 71 to 94.
3	Specify the external line by pressing a line button, a line pool button, or the intercom button. (If you do not specify the external line, the system uses the prime line for the DN.)
4	Dial the telephone number you want to program (up to 24 digits).
5	Press **Ok.**
6	Record the code and number you programmed.

--End--

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Blocking set-level access to button programming

The telephones with programmable memory buttons are given a default set of button assignments when the system is set up. The system administrator can change these defaults in system programming. The user can also program memory buttons for autodial and feature codes, as well as move button assignments to suit their working style.

You can block the user from using this feature.

Procedure steps

Step	Action
1	Click **Configuration > Telephony > Sets > Active Sets > Restrictions tab.**
2	Select the DN you want to modify.
3	Set the telephone Set Lock to Partial or Full.

--End--

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BCM 5.0 devices special features configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can program telephones and devices to perform specific feature services, such as dialing an emergency number as soon as the handset is picked up, or acting as the control set for the system schedules.

BCM 5.0 devices special features configuration navigation

- Configuring a hotline telephone (page 147)
- Assigning a pause for external dialing (page 148)
- Configuring a control telephone (page 149)
- Assigning a supervisor telephone (page 150)
- Configuring silent monitoring (page 150)
- Configuring a prime line (page 151)
- Configuring a direct dial telephone (page 152)
- Configuring access to a direct dial telephone (page 153)

Configuring a hotline telephone

You can define a telephone that automatically dials an emergency or direct number when the handset is lifted.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Sets > Active Sets > Capabilities and Preferences tab**.
2	Click the DN of the telephone to configure as a hotline telephone.
3	In the Details for DN panel, select the **Preferences** tab.

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4 From the **Hotline type** list, select internal or external.

5 Configure the Hotline parameters.

--End--

Variable definitions

Variable	Value
Hotline Type	This feature allows you to define a telephone number that automatically dials when you lift the handset or press the Handsfree button, on a telephone. • Internal — Define the internal telephone you want to access. • External — Enter the line you want the call to use. (This cannot be a target line.) • Enter the complete call number for the external telephone you want to access. If the direct dial telephone is on a remote node of the network, ensure that the correct line pools are assigned to the telephone to properly route the call.
Internal number	Define the internal telephone you want to access. • DN:* — The DN of the telephone that is automatically dialed when the user lifts the handset. • Direct dial set — Automatically dials a telephone on the system defined as a direct dial telephone (direct dial access code).
Facility	Select a facility from the list. • Pool:A — Refer to the line pool assignment for this telephone. • Use prime line — Refer to the General record for this telephone. • Use routing table — Refer to the routing tables. The routing code for that table must be part of the External number.
External number	Enter the complete call number for the external telephone you want to access.

Assigning a pause for external dialing

Assign a 1.5-second pause before the device dials out.

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Procedure steps

Step	Action
1	Select **Configuration > Telephony > Sets > Active Sets**.
2	Select the **Capabilities and Preferences** tab.
3	Click the DN of the telephone you wish to assign a pause for external dialing.
4	In the bottom panel, select the **Preferences** tab.
5	In the Hotline type drop-down list, select **External**.
6	Set the Facility field to **Use prime line**.
7	Click **P** from the drop-down keypad in the External number field.
8	Click **OK**.

--End--

Configuring a control telephone

The control telephone allows you to control other telephones in the system by turning service schedules off and on.

You can define a control set for lines, individual telephones, and for hunt groups.

Prerequisites

- The control telephone must have the line assigned, or must be assigned to the line pool the line is in.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Lines > Active Physical Lines** or **Configuration > Telephony > Sets > Active Sets > Capabilities and Preferences** tab.
2	Select the DN or Line you want to configure as a control telephone.
3	Double-click **Control Set**.
4	Enter the DN for the control telephone.

--End--

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Assigning a supervisor telephone

The silent monitoring feature enables specified two-line display telephones to be used to monitor Hunt group and Contact Center operators. You can specify whether the system sounds a tone before breaking into a call or whether the break-in is silent. Display prompts on the supervisor telephone allows the supervisor to unmute or move from user to user.

A maximum of 30 two-line display telephones can be configured as supervisor telephones for monitoring.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Sets > All DNs**.
2	Select the **Capabilities and Preferences** tab.
3	Click the row of the telephone to assign as a supervisor telephone.
4	In the bottom panel, select the **Capabilities** tab.
5	Select the **Silent monitor supervisor** check box.

--End--

Configuring silent monitoring

Configure silent monitoring to customize the functionality of this feature.

Prerequisites

- For security, change your password regularly.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Global Settings > Advanced Feature Settings**.
2	In the Silent monitor section, configure the parameters.

--End--

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Variable definitions

Variable	Value
Monitoring mode	Select Non silent if you want the hunt group member and the caller to hear a conference tone when a supervisor breaks into a hunt group conversation. Select Silent if you want supervisors to be able to break into a hunt group conversation without giving an indicator of their presence. Initial monitoring is muted at the supervisor set. If the supervisor wants to speak within the conversation, a display key on the two-line display becomes available, once the connection is established.
Number of SM sets	Indicate the number of two-line telephones in your system that you will allow to be used as supervisory telephones.
SM password	Enter a six-digit password that must be entered after the supervisor presses FEATURE *550. To maintain system security, change this password frequently.

Configuring a prime line

For incoming calls, you can have a central answering position, or you can specify target lines to one or more telephones to receive directed calling.

If you are using the central answering position to answer all calls, or to monitor incoming calls, you may need the extended capabilities of a T24 Key Indicator Module (KIM) for digital phones or a Key Expansion Module (KEM) for IP Phones 1120e, 1140e, 1220, 1230, 2002, and 2004. These telephones allow you to expand the number of line assignments, SWCA code assignments, and Hunt group indicators.

If you do not filter incoming calls through an central answering position, you can arrange your telephones in Hunt groups, ringing groups, or call groups that use system wide call appearance (SWCA) assignments to share calls.

You can set up a central answering position to enable you to:

- To filter all incoming calls through one point.
- To provide fallback for unanswered telephones.
  Set up the prime telephone feature or use call forward.
- To provide one number for callers that can be distributed to an internal group.
- Set up hunt groups for service groups or System Wide Call Appearance (SWCA) assignments for small groups.

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- To provide a central answering position for internal users. Set up a direct dial code.

This procedures sets up the provided the fallback for unanswered calls by configuring the prime line. The prime line is the DN that the line rings when the system cannot ring the intended DN.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Sets > All DNs**.
2	Select the **Capabilities and Preferences** tab.
3	In the row of a telephone, double-click **Prime line**, and then select a value from the list.
	--End--

Configuring a direct dial telephone

The direct dial telephone is the telephone that system users can dial with one digit, the direct dial access code. A receptionist telephone is one example of this. This telephone is usually the control telephone for system scheduling. You can create up to five direct dial telephones. However, they all respond to the same direct dial access code.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Dialing Plan > General**.
2	On the Direct Dial table, click the fields beside the set number you want to configure and enter the appropriate values.
3	Press Tab on your keyboard to save the values.
	--End--

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Variable definitions

Variable	Value
Direct Dial Digit	The Direct dial digit setting allows you to specify a single system-wide digit to call a direct dial telephone.
Set	This tags the telephone to the system.
Type	This is the type of number for the direct-dial set.
Internal DN	The DN number of the telephone to be designated as the direct dial set. (Internal sets).
External No.	The actual phone number, including destination codes, of the direct dial set (External sets).
Facility	The facility to be used to route the call to a direct dial set that you define with an external number. If you choose Use prime line, ensure that prime line is not assigned to the intercom buttons for your telephones. When prime line is assigned as an intercom button, it chooses the first available line pool assigned to the telephone to make a call. If this line pool does not have the correct lines for routing the call, the direct dial call will fail.

Configuring access to a direct dial telephone

Configure access to a direct dial telephone to define the telephone that is called when the direct dial number is pressed from this telephone.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Sets > All DNs**.
2	Select the **Capabilities and Preferences** tab.
3	Select the DN you want to configure.
4	In the Details for DN pane, select the **Capabilities** tab.
5	In the **Direct dial** field, enter the number of the direct dial telephone to which this telephone has access.

--End--

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System-wide call appearance configuration

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Configure your BCM 5.0 system-wide call appearance (SWCA) keys.

SWCA configuration navigation

- Adding SWCA keys to your telephone (page 155)
- Assigning a received call to a SWCA key (page 156)
- Retrieving a call from a SWCA key (page 157)
- Conferencing a call parked on a SWCA key (page 157)

Adding SWCA keys to your telephone

The System-Wide Call Appearance (SWCA) feature enables you to park incoming and outgoing calls on your BCM and, at the same time, provides call appearance to a group of telephones. Using this feature frees the line used by the call, and enables another user to pick up the call at any telephone that has been assigned the same SWCA keys

SWCA keys can be assigned by your system administrator to a group of telephones. For more information, see Default memory button programming for sets (page 18). Also, each user can assign these keys on their own telephones.

Procedure steps

Step	Action
1	Enter **FEATURE *3**.
2	Select a memory button with an indicator.

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3 Enter a SWCA code (FEATURE *521 to FEATURE *536).

--End--

Assigning a received call to a SWCA key

Your system administrator can tell you how your system works. The system may be programmed in one of the following ways:

• An incoming call automatically assigns to a free SWCA key when the call is answered.

— To park the call, press the SWCA key a second time.

— Answering a second call: The original call is automatically parked on a free SWCA key.

For this instance to occur, your system must be set for Full Autohold (FEATURE 73),

• You press a free SWCA key to park the call to that key.

• When you press HOLD, the call parks on a free SWCA key.

You also can perform one of the following steps to park the call:

• While the call is active, enter the SWCA code that corresponds to the key where you want to park the call. Refer to “To add SWCA keys to your telephone” on page 298.

• While the call is active, enter FEATURE *520 to search for the next available SWCA code (assigned to your telephone).

— If the system finds an available code, the call is associated with the code.

Press HOLD or the assigned SWCA key to park the call.

— If no code is available, the call remains active on your line only. Put the call on hold until a SWCA key becomes available.

— If the call was already associated with a SWCA code (for the duration of the call), the call is reparked on that code.

--End--

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Retrieving a call from a SWCA key

If you are not sure which call to retrieve, you can use one of the following codes to find the longest parked call or the most recently parked call:

• FEATURE *537 retrieves the oldest SWCA call. The indicator on all telephones in the group becomes solid, indicating an active call.

• FEATURE *538 retrieves the most recent SWCA call. The indicator on all telephones in the group becomes solid, indicating an active call.

Note: These codes only work for telephones that have SWCA keys defined, and the system only searches across the range of codes that are assigned for that telephone.

Conferencing a call parked on a SWCA key

If a conference call is created from two SWCA-associated calls, and then a transfer occurs by the conference master releasing the call, the call is associated to only the currently associated SWCA keys (if any) on the slaves.

If a conference call is created from two SWCA-associated external calls, and then a transfer occurs by the conference master releasing the call, the remaining call between the lines and trunks are not be associated with any SWCA key.

Prerequisites

- A conference call cannot be parked on a SWCA key.
- You cannot conference a call that is parked on a SWCA key until it is unparked.

Procedure steps

Step	Action
1	Press the SWCA key to unpark the call.
2	Press HOLD.
3	Press FEATURE 3 to create the conference.

--End--

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Set template creation and export

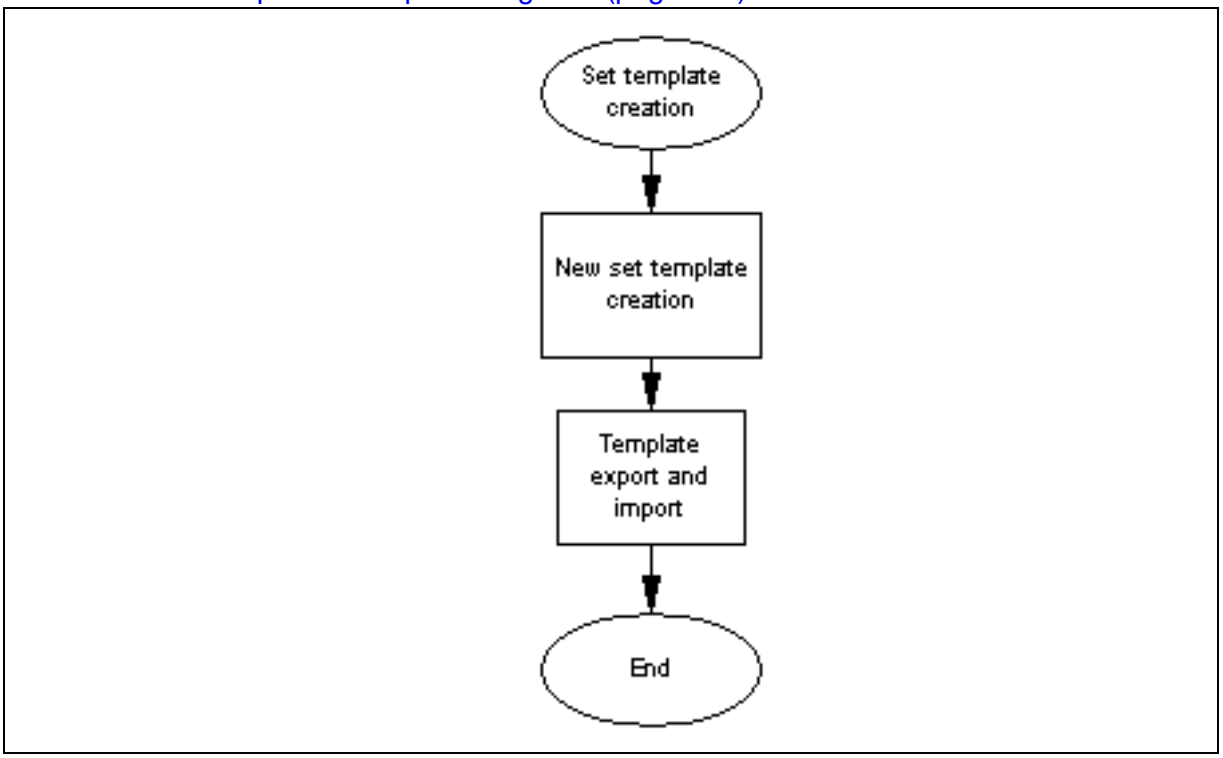
The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can create a set template using Element Manager to capture a collection of set parameters, such as capabilities, preferences, assignment of lines, buttons, Meet Me Conferencing, and voice mail settings.

You can export a template to a file so that you can apply that file to multiple BCMs.

Set template creation and export and import tasks

This work flow shows you the sequence of tasks you perform to create a set template. To link to any tasks, click on NavigationSet template creation and export and import navigation (page 160)



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NavigationSet template creation and export and import navigation

- New set template creation (page 161)
- Set Template export and import (page 171)

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New set template creation

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can create a set template using Element Manager to capture a collection of set parameters, such as capabilities, preferences, assignment of lines, buttons, Meet Me Conferencing, and voice mail settings. You can assign the template to any number of appropriate sets on the BCM 5.0. Upon initialization, the system creates two default templates named PBX and DID.

When you assign sets to a template, any changes to the template are propagated to all sets associated with the template. When you associate a set with a template and you modify settings of the sets outside of the template, the set is disassociated from the template. The set is not disassociated from the template if you modify parameters that can also be modified by end-users from their phone sets.

The BCM supports a maximum of 30 templates including the two default templates (PBX and DID).To link to any tasks, click on Navigation (page 162).

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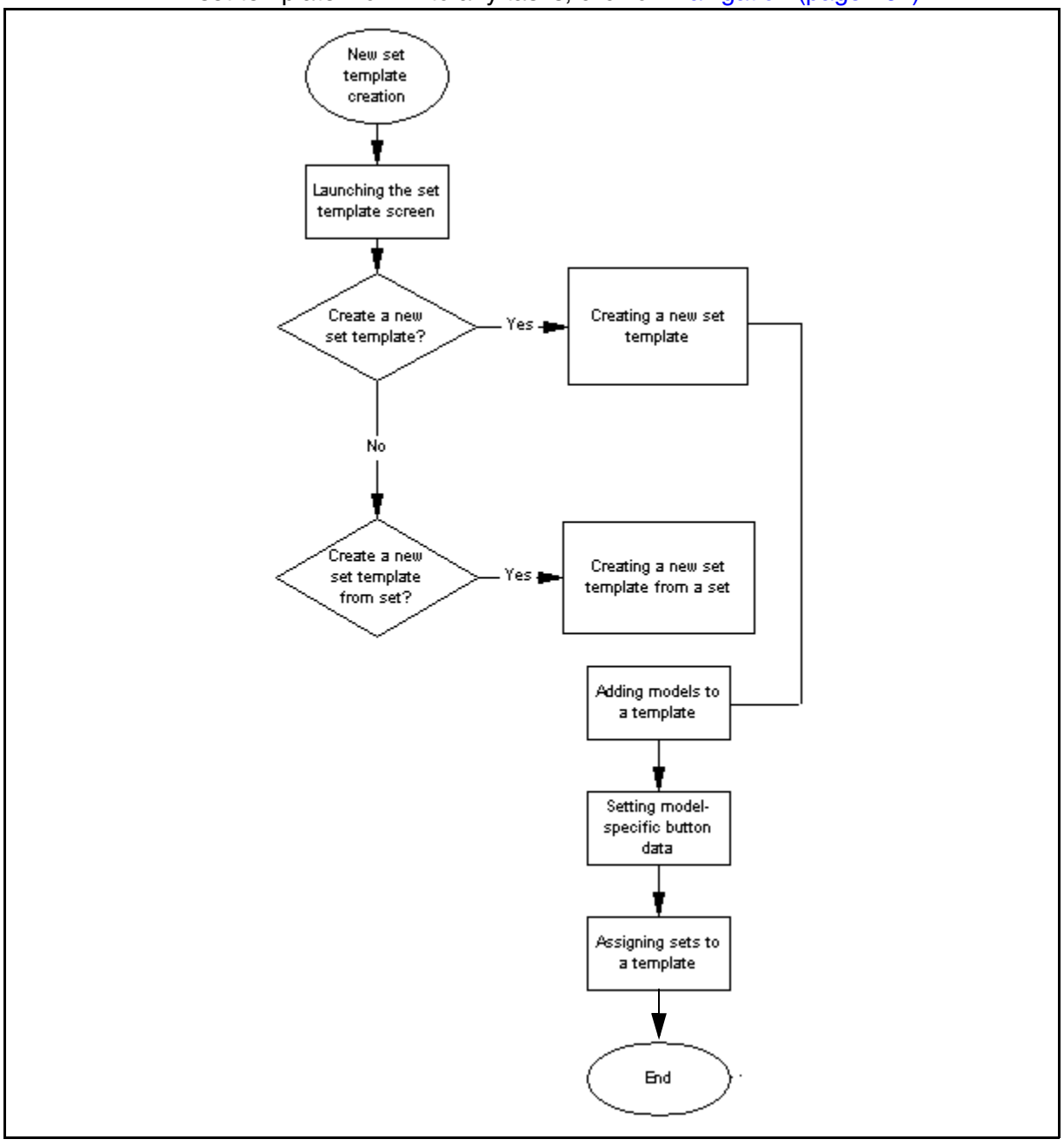
New set template creation procedures

This task flow shows you the sequence of procedures you perform to create a set template. To link to any tasks, click on Navigation (page 162)


New set template creation
Launching the set template screen
Create a new set template?
Yes
Creating a new set template
No
Create a new set template from set?
Yes
Creating a new set template from a set
Adding models to a template
Setting model-specific button data
Assigning sets to a template
End

Navigation

- Launching the set template screen (page 163)
- Creating a new set template (page 163)
- Creating a set template from a set (page 166)

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- Assigning a template to sets (page 169)
- Adding models to a template (page 167)
- Setting model-specific button data (page 168)

Launching the set template screen

Launch the set template screen to access existing set templates and to create new templates.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.

Procedure steps

Step	Action
1	From the **Configuration** tab, select the **Telephony** folder.
2	From the **Telephony** folder, select the **Sets** folder.
3	Click **Templates**. *The Set Templates screen appears.*

--End--

Creating a new set template

Create an original new template or select an existing template upon which to base the new template, to transfer set configuration information from one set to multiple sets at the same time.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	In the Set Templates screen, click **Add**.
2	In the **Name** field, type a name for the new template.
3	In the **Description** field, type a description of the template.

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4 From the **Source template** list, select **None** to create an original template or select another template type as the basis for your new template.

5 In the **Source DN** field, type a DN to which you want to assign the template or leave the field blank to use the template default settings.
If you selected None in Step 4, the Source DN field is enabled and you can assign a DN to the template. If you choose to base your template on an existing template, the Source DN field is disabled because the source DN is taken from the source template.

6 Click **OK** to create the template or click **Cancel** to cancel the template creation.

The new template name appears in the Templates table.

--End--

Variable Definitions

Variable	Value
Description	Type a description of the template, for example, the purpose of the template.
Name	Type a descriptive name for the template, for example, Office_B template. The name should not contain any special characters except an underscore (_) and it should begin with an alphabetical character.
Source template	Select from the list of existing created and default templates a template on which to base the new template. The default value is None.
Source DN	Type a DN that you want to use as a source for this template.

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Procedure job aid

If you create a new template and do not base it on an existing template or assign it to a set, the template is created with the following default settings.

Parameter	Default value
Prime Line	I/C
Intercom Keys	2
Line Pool	A
DND on Hold	No
Handsfree	Auto
HF answerback	Yes
Pickup group	None
Paging	No
Paging zone	1
Direct dial	1
Priority call	No
Auto hold	Yes
Auto hold for incoming page	No
Aux. ringer	None
Allow redirect	No
Redirect ring	Yes
Fwd no answer	No
Fwd delay	N/A
Fwd busy	No
Access to hotline	No
Model	Dependent on target sets
Dialing options	Standard dial
Language	English
Contrast	4
Ring type	1
Phone button settings	Dependent on model

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Creating a set template from a set

You can create a new set template based on a set, or DN. When you create a set template from a set, the new template is automatically populated with the configuration details from the set you chose.

Prerequisites

- launch Element Manager
- connect to the Business Communications Manager
- navigate to **Configuration>Telephony>Sets>Templates**

Procedure steps

Step	Action
1	In the Set Templates screen, click **Add**.
2	In the **Name** field, type a name for the new template.
3	In the **Description** field, type a description of the template.
4	From the **Source template** list, select **None**.
5	In the **Source DN** field, type the DN on which you want to base the new template.
6	Click **OK** to create the template or click **Cancel** to cancel the template creation. *The new template name appears in the Templates table. The template is populated with the settings from the set (DN) you chose.*

--End--

Variable Definitions

Variable	Value
Description	Type a description of the template, for example, the purpose of the template.
Name	Type a descriptive name for the template, for example, Office_B template. The name should not contain any special characters except an underscore (_) and it should begin with an alphabetical character.

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Variable	Value
Source template	Select from the list of existing created and default templates a template on which to base the new template. The default value is None.
Source DN	Type a DN that you want to use as a source for this template.

Adding models to a template

Add specific telephone models to a a set template to incorporate model-specific parameters into the template.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	In the Set Templates screen, select the template to which you want to add a telephone model.
2	Click **Add Model**.
3	From the **Type** list in the Add model dialog box, select a model that you want to add to the template. You cannot add more than one model of telephone at a time.
4	Click **OK** to confirm the addition or click **Cancel** to cancel the addition. *The model you added appears nested beneath the appropriate template.*
	--End--

Variable Definitions

Variable	Value
Type	Select a model type from the list of available models on your system. Values depend on the model types that are currently supported on your system.

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Setting model-specific button data

Use the Details for Templates panel to specify data settings for a particular model of phone that you have added to a specific set template.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	In the Set Templates screen, select the template to which you want to add a phone model.
2	From the nested list of models you have added to the set template, select the model for which you want to set data. *The Details for Template panel appears below the Templates list panel.*
3	In the IP Terminal tab, click **Edit**. The IP Terminal tab only appears for models that are IP sets.
4	From the **Codec** list in the **Edit IP Terminal** dialog, select a Codec that you want to assign to the phone model.
5	From the **Jitter Buffer** list, select the amount of buffer you want to assign to the phone model.
6	Select the **Keep DN Alive** check box if you want to maintain this option.
7	Click **OK** to confirm the choices or click **Cancel** to cancel the choices.
8	Select the **Button Programming tab**.
9	From the **Model** list, select the model of phone to which you want to apply specific button programming specifications.
10	Select the **Button Programming Table tab**.
11	From the **Buttons** list, select the phone button for which you want to configure functionality.
12	Click **Edit**.
13	From the **Function** list in the **Edit Button** dialog, select the type of functionality you want to assign to the button.
14	If applicable, from the **Value** list, select a valid value for the particular functionality you want to assign to the button.
15	Click **OK** to confirm the choices or click **Cancel** to cancel the choices.

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--End--

Attention: The template does not provide support for expansion modules.The IP Key Expansion Module (KEM) and the Key Indicator Module (KIM) are not supported.

Assigning a template to sets

Assign a set template to specific sets, or DNs, to propagate changes to those sets through template updates.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	In the Set Templates screen, select the template you want to assign to a set or sets.
2	Click **Assign**.
3	In the **Available sets** list, select a set to which you want to assign the template. To select multiple sets, hold down the Ctrl key and select the sets.
4	Click the double-arrow button in the middle of the screen to move the DNs you selected from the **Available sets** list to the **Assigned sets** list. *The set or sets you selected appear in the Assigned sets list.*
5	Click **OK** to confirm the assignment or click **Cancel** to cancel the assignment.

--End--

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Set Template export and import

The information in this chapter applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can export a template from one Business Communications Manager (BCM 5.0) and then import that template on another BCM 5.0. When you export and import a template, all template attributes that you have set are copied to the second BCM, and are propagated to the sets on that BCM.

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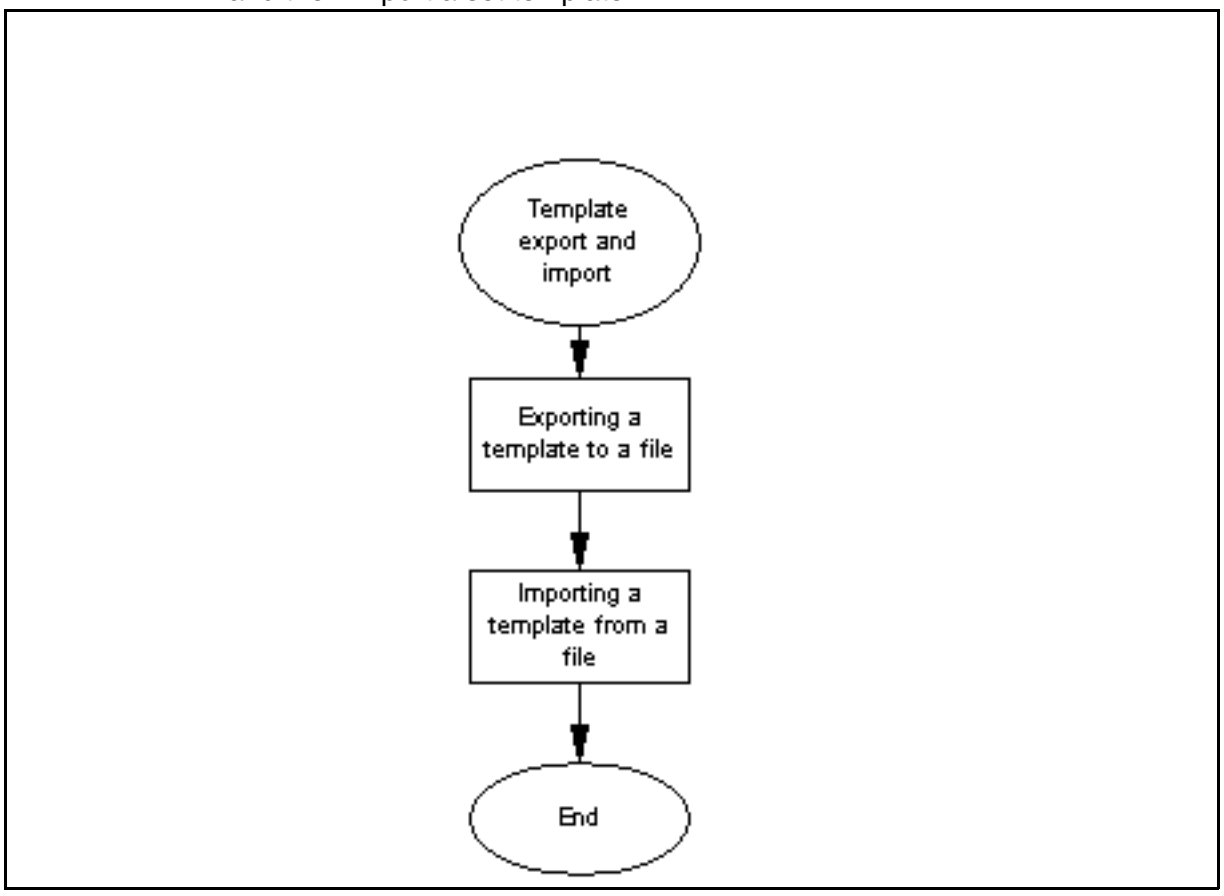
Set template export and import procedures

This task flow shows you the sequence of procedures you perform to export and then import a set template.



- Exporting a template to a file (page 172)
- Importing a template from a file (page 173)

Exporting a template to a file

You can export a template to a file while connected to one system and import the same file when connected to a different system.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

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Procedure steps

Step	Action
1	In the Set Templates screen, select the template you want to export. The Set Renumber dialog box appears.
2	Click **Export**. The Export Templates dialog box appears.
3	From the **Transfer type** list, select the method by which you want to export the set template. **Attention:** If you select Network Folder as the destination for the export, you must use the following format to enter the information: <IP Address>\<Share Folder> For example: 47.125.152.141\Public **Attention:** If you select My Computer as the destination for the export, you are not prompted for a Folder, UserID, or Password.
4	From the **Files** field, click **Browse**.
5	Navigate to the location where you want the template to be saved.
6	Click **OK** to confirm the export or click **Cancel** to cancel the export.
	--End--

Variable Definitions

Variable	Value
Transfer Type	Select a transfer type from the list (My Computer, Network folder, USB).

Importing a template from a file

You can transfer a set template from one BCM to another by exporting a set template from one BCM and then importing that file to a second BCM.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration > Telephony > Set > Templates.

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Procedure steps

Step	Action
1	In the Set Templates screen, select the template you want to import.
2	In the Set Templates panel, click **Import**. *The Import Templates dialog box appears.*
3	From the **Transfer type** list, select the type of location from which you want to import the template.
4	From the **Files** field, click **Browse**.
5	Navigate to the location where you exported the template you now want to import.
6	Click **OK** to Import the template. or click **Cancel** to cancel the import. *The new template appears in the Templates list.*

--End--

Variable Definitions

Variable	Value
Transfer type	Select the type of location from which you want to import the set template (My Computer, Network folder, or USB).
Files	Browse to the location where you want to retrieve the file.

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Set template access

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can access a template from a file or from a back up.

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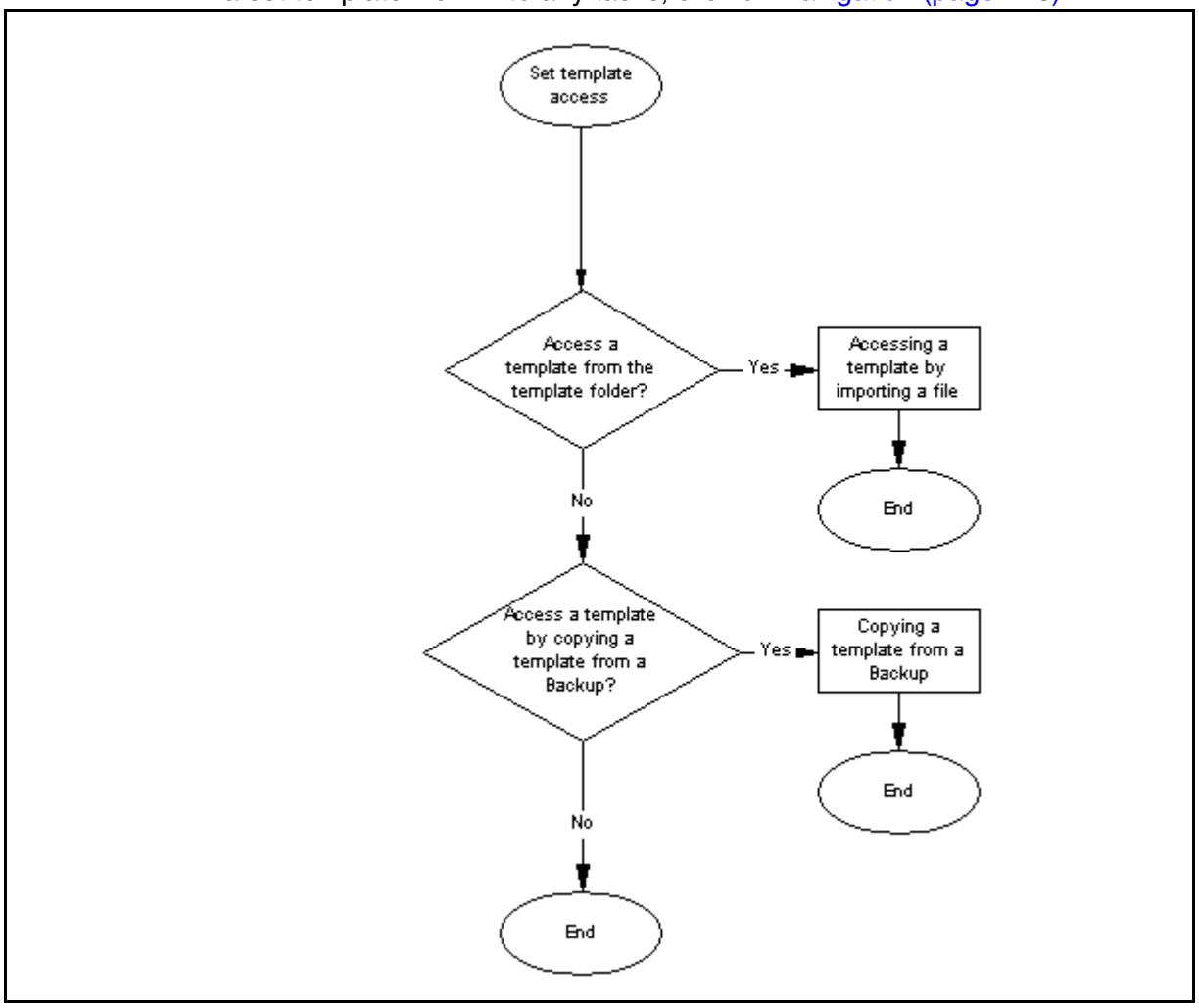
Set template access procedures

This task flow shows you the sequence of procedures you perform to access a set template. To link to any tasks, click on Navigation (page 176)



Navigation

- Importing a template from a file (page 173)
- Copying a template from a backup (page 176)

Copying a template from a backup

You cannot copy and paste a set template from one BCM to another. You can transfer all set templates from one BCM to another by using the template import and export functionality or by performing a backup on one BCM and then restoring that backup on a second BCM. In this way, the templates of the first BCM are transferred to the second BCM.

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Attention: If you choose to do a Backup and Restore of the BCM, you can not backup and restore only set templates. Set templates are included as part of the Core Telephony component.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Administration>Backup and Restore>Backup>Immediate Backup.

Procedure steps

Step	Action
1	From the **Backup to** list, select where you want to back up the set template. If you select Network Folder as the destination for the export, you must use the following format to enter the information: <IP Address>\<Share Folder> For example: 47.125.152.141\Public.
2	Click the **Backup** button. The Backup dialog box appears.
3	In the **Backup** dialog box, click **OK**. Set templates are automatically included in the backup.
4	Read the information in the Warnings dialog box. Click **Yes** to continue.
5	In the Save dialog box, enter the path and file name to which the file will be saved. A message appears after the download is complete.

Attention: You can also select or clear additional applications such as IP Music.

6	In the Element Manager, connect to the destination BCM (the BCM to which you want to restore the set templates).
7	Navigate to **Administration>Backup and Restore>Restore**.
8	From the **Restore from** list, select the location where you saved the original backup.
9	Click **Restore**. Set templates are automatically included in the Core Telephony component. Note: Make sure that the Core Telephony component is selected. *The backup of the first BCM is restored on the second BCM. You can now create, modify, and assign the set templates from the first BCM to the second BCM.*

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--End--

Variable Definitions

Variable	Value
Backup to	Select the location where you want to backup the BCM data (BCM, My Computer, Network folder, FTP server, SFTP server, USB storage device).
Optional components	Select or clear the applications and features you want to include in the backup.
Restore from	Select the location where you backed up the data of the first BCM data (BCM, My Computer, Network folder, FTP server, SFTP server, USB storage device).

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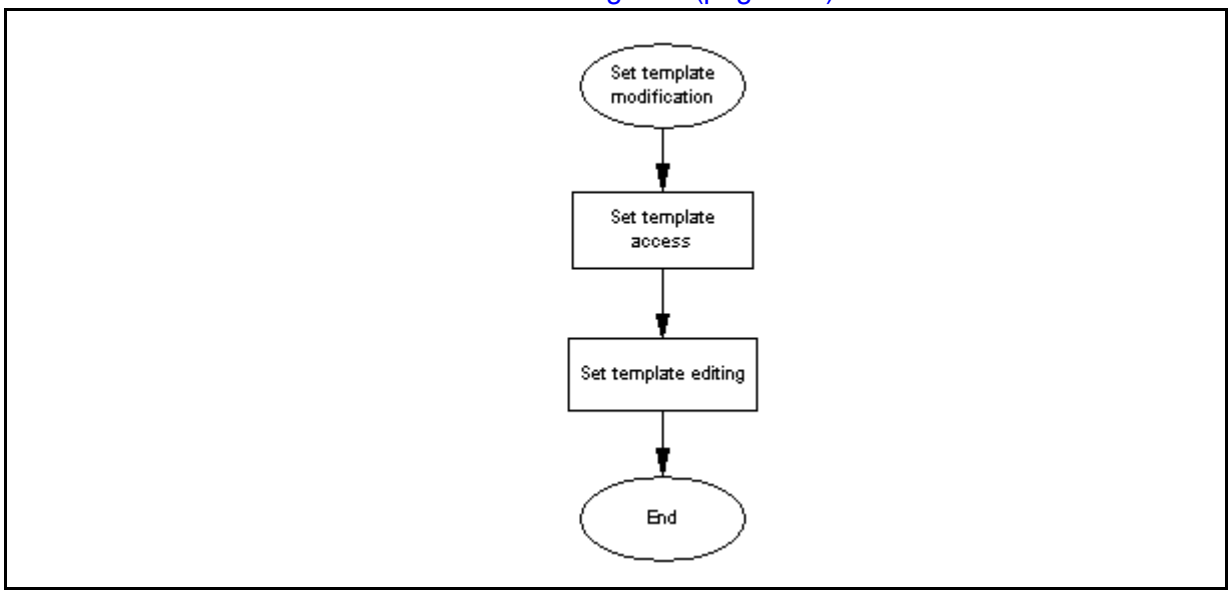
Set template access and modification

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Administrators can modify a set template using Element Manager. After you modify a set template on the Business Communications Manager (BCM 5.0), the changed parameters are applied to every set to which the template has been assigned.

Set template access and modification tasks

This work flow shows you the sequence of tasks you perform to access and modify a set template. To link to any tasks, click on NavigationSet template access and modification navigation (page 179)



NavigationSet template access and modification navigation

- Set template access (page 175)
- Set template modification (page 181)

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Set template modification

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Administrators can modify a set template using Element Manager. After you modify a set template on the Business Communications Manager (BCM 5.0), the changed parameters are applied to every set to which the template has been assigned.

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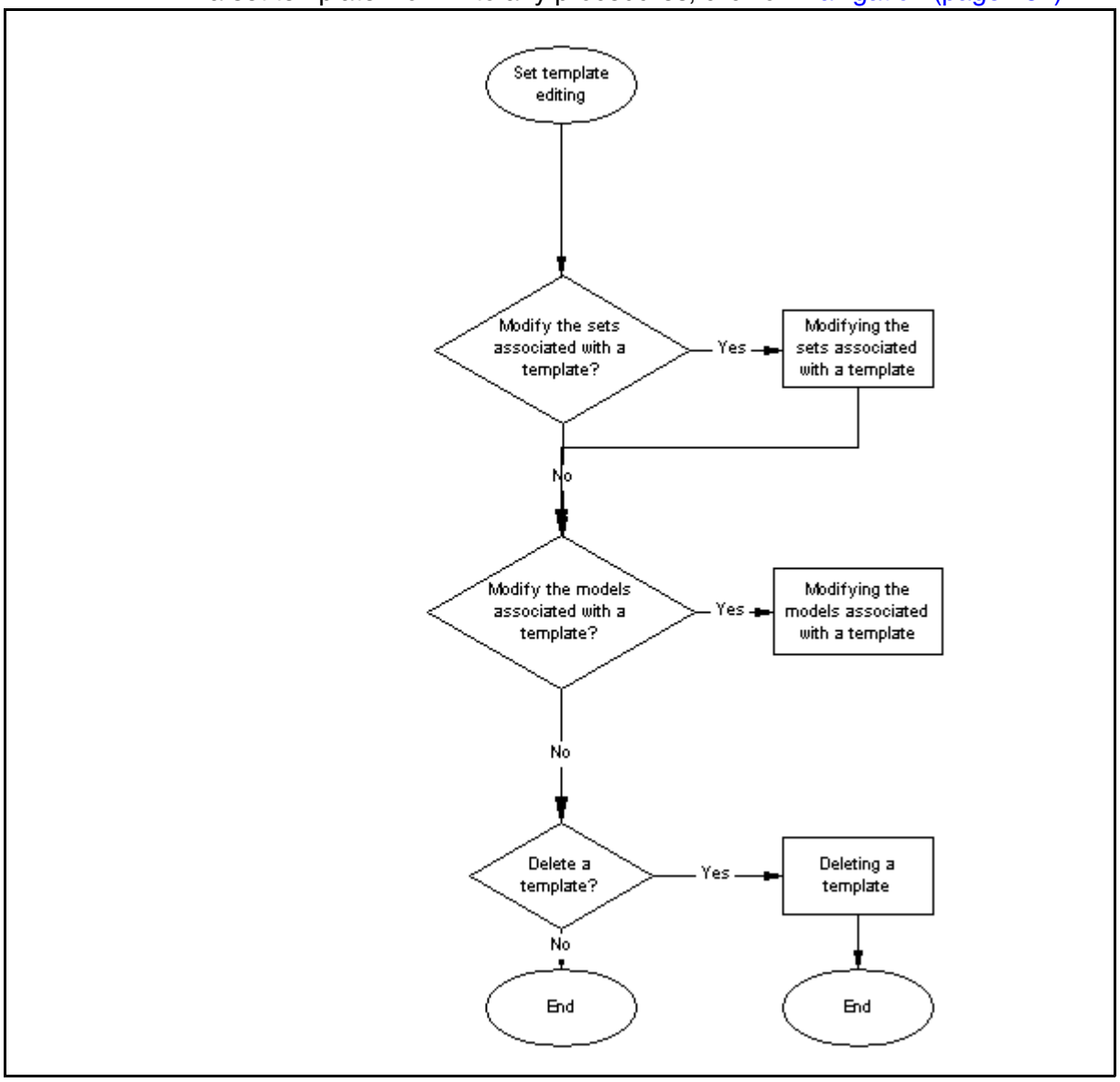
Set template modification procedures

This task flow shows you the sequence of procedures you perform to modify a set template. To link to any procedures, click on Navigation (page 182)



Navigation

- Modifying the sets associated with a template (page 183)
- Modifying the models associated with a template (page 189)
- Deleting a template or set model (page 190)

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Modifying the sets associated with a template

Use the set template to edit set parameters and then apply these changes to all sets at once. If you used set-based administration or Element Manager to modify a supported parameter on a specific set, the system automatically disassociates the set from the template.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	From the **Templates** list, select the template you want to use to edit sets. The Details for Template panel appears in the lower half of the Set Templates panel.
2	In the **Capabilities** list, click **Edit**. *The Edit Capabilities dialog box appears.*
3	In the Edit Capabilities dialog box, modify the fields as necessary to address the changes you want to propagate to all sets. You can edit the following parameters: • Control set • Intercom keys • Direct dial • Pickup group • Page zone • Prime line • First display • Handsfree • Allow redirect • DND on busy • Auto hold • Redirect ring • Silent monitor • Auto hold for incoming page • Receive short

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- Paging
- HF answer back
- Auto called ID
- Priority call

4 Click **OK** to confirm the changes, or click **Cancel** to cancel the changes.

If you confirm the changes, a progress dialog box appears. The changes are registered with the BCM and propagated to the sets.

5 Select the **Preferences** tab.

6 Click the **Edit** button.

The Edit Preferences dialog box appears.

7 In the **Edit Preferences** dialog box, modify the fields as necessary to address the changes you want to propagate to all sets. You can edit the following parameters:

- Language
- Dialing options
- Contrast
- Ring type
- Call log options
- Log space
- Auxiliary ringer
- Hotline Type

8 Click **OK** to confirm the changes, or click **Cancel** to cancel the changes.

If you confirm the changes, a progress dialog box appears. The changes are registered with the BCM and propagated to the sets.

9 Select the **Line** tab.

10 Click **Edit**.

The Edit Line dialog box appears.

11 In the **Edit Line** dialog box, modify the fields as necessary to address the changes you want to propagate to all sets. You can edit the following parameters:

- Forward no answer
- Forward busy
- Meet Me Conference Enable

12 Click **OK** to confirm the changes, or click **Cancel** to cancel the changes.

If you confirm the changes, a progress dialog box appears. The changes are registered with the BCM and propagated to the sets.

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13 Select the **SWCA CAll Group** tab.

14 Click **Edit**.

The Edit SWCA call group dialog box appears.

15 In the **Edit SWCA call group** dialog box, select call numbers you want to propagate to all sets.

16 Click **OK** to confirm the changes, or click **Cancel** to cancel the changes.

If you confirm the changes, a progress dialog box appears. The changes are registered with the BCM and propagated to the sets.

17 Select the **Restrictions** tab.

18 Click **Edit**.

The Edit Restrictions dialog box appears.

19 In the **Edit Restrictions** dialog box, modify the fields as necessary to address the changes you want to propagate to all sets. You can edit the following parameters:

- Normal
- Night
- Evening
- Lunch
- Sched 4
- Sched 5
- Sched 6
- Set lock
- Allow last number
- Allow saved number
- Allow link

20 Click **OK** to confirm the changes, or click **Cancel** to cancel the changes.

If you confirm the changes, a progress dialog box appears. The changes are registered with the BCM and propagated to the sets. Voice mail settings are also propagated.

--End--

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Variable Definitions

Variable	Value
Capabilities	
Control set	Type a DN number of the set you want to use as the baseline for parameter settings.
Intercom keys	Select from the list the number of intercom keys a set can have (0, 1, 2, 3, 4, 5, 6, 7, 8,)
Direct dial	Type a number to assign to the direct dial set.
Pickup group	Type the number (1 to 9) of the pickup group (a group where all telephones ring until one is answered) to which you want to assign the sets.
Page zone	Type a zone number (1 to 6) to assign sets to that zone.
Prime line	Select the first line that the telephone selects when a call is made (None, I/C, Pool [A to O], Pool Block[A to F], Line).
First display	Select from the list to determine what call display information appears first (Name, Number, or Line).
Handsfree	Select the Handsfree feature to allow the use of telephone speakers or a headset. None: The handsfree feature is not available on all telephone models (7000 and 7100 digital phones, 2001 IP phones). Standard: The handsfree feature is activated by pressing a button on the telephone. Auto: The handsfree feature is activated when the telephone receives a call.
Allow redirect	Select to enable the Redirect feature.
DND on busy	Select to enable do not disturb.
Auto hold	Select to allow the system to automatically place an active call on hold if you answer or initiate another call.
Redirect ring	Select to enable the Line Redirection feature.
Silent monitor	Select to enable the Silent Monitoring feature.
Auto hold for incoming page	Select to allow the system to place an incoming call on hold and allow a page to go through when the telephone is active when a page comes in.
Receive short	Select to enable the Receive Short Tones feature.
Paging	Select to enable the Paging feature.
HF answer back	Select to enable the HF answer back feature which allows users to answer a call without lifting the handset, or to use a headset.
Auto called ID	Select whether you want to see on your display the extension number and name of the telephone you call.

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Variable	Value
Priority call	Select to allow sets to interrupt calls or override Do Not Disturb at another telephone.
Preferences	
Language	Select the menu language on the handset (English, French, Spanish, Norwegian, Swedish, UK English, Danish, Vicap, Dutch, Bzl Portuguese, German, Euro French, Aust English, Turkish, Italian, Euro Spanish, Polish, Czech).
Dialing options	Select a dialing type (Standard dial, Automatic dial, Pre-dial).
Contrast	Select the level of LCD contrast (1, 2, 3, 4, 5, 6, 7, 8, 9).
Ring type	Type a value (1, 2, 3, 4) to select a distinctive ring pattern type for the telephone. Default is 1.
Call log options	Select from the list the type of log recorded for calls (No auto logging, No one answered, Unanswered by me, Log all calls).
Log space	Type the amount of system memory to allot to logs.
Auxiliary ringer	Select to enable the auxiliary ringer.
Hotline Type	Select a hotline type from the list (None, Internal, External).
Line	
Forward no answer	Enter a telephone number to which the system can direct calls when the call is not answered.
Forward busy	Enter a telephone number to which the system can direct calls when the line is busy.
Meet Me Conference Enable	Select to enable the Meet Me Conferencing feature.
SWCA Call Group	Select call numbers you want to propagate to all set.s
Restrictions	
Normal	Enter the restriction filter that applies to each schedule.
Night	Enter the restriction filter that applies to each schedule.
Evening	Enter the restriction filter that applies to each schedule.
Lunch	Enter the restriction filter that applies to each schedule.
Sched 4	Enter the restriction filter that applies to each schedule.
Sched 5	Enter the restriction filter that applies to each schedule.
Sched 6	Enter the restriction filter that applies to each schedule.

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Variable	Value
Set lock	Determine how much programming the user performs at their telephone. Select None, Partial, or Full. None - allows access to all features. Partial - prevents programming autodial buttons and user speed dial. Full - no feature programming is allowed.
Allow last number	Select to enable the Last Number Redial feature.
Allow saved number	Select to enable the Saved Number Redial feature.
Allow link	Select to enable the Link feature.
Voice Mail	For Voice Mail see Voice mailbox set up (page 195).

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Modifying the models associated with a template

Use the set template to edit set parameters and then apply these changes to all sets at once.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	In the Set Templates screen, select the template to which you want to add a telephone model.
2	From the nested list of models you have added to the set template, select the model for which you want to set data. *The Details for Template panel appears below the Templates list panel.*
3	In the IP Terminal tab, click **Edit**.
4	From the **CODEC** list in the Edit IP Terminal dialog box, select a CODEC that you want to assign to the telephone model.
5	From the **Jitter Buffer** list, select the amount of buffer you want to assign to the telephone model.
6	Select the **Keep DN Alive** check box if you want to maintain this option.
7	Click **OK** to confirm the choices or click **Cancel** to cancel the choices.
8	Select the **Button Programming** tab.
9	From the **Model** list, select the model of telephone to which you want to apply specific button programming specifications.
10	Select the **Button Programming Table** tab.
11	From the **Buttons** list, select the telephone button for which you want to configure functionality.
12	Click **Edit**.
13	From the **Function** list in the Edit Button dialog box, select the type of functionality you want to assign to the button.
14	If applicable, from the **Value** list, select a valid value for the particular functionality you want to assign to the button.
15	Click **OK** to confirm the choices or click **Cancel** to cancel the choices.

--End--

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Variable Definitions

Variable	Value
Model	Select from the list of telephone models supported on your system.
IP Terminal	
CODEC	Select the CODEC type (Auto, G.711-uLaw, G.711-aLaw, G.729, G.723, G.729+VAD, G.723+VAD).
Jitter Buffer	Select the jitter buffer value (Auto, None, Small, Medium, Large).
Keep DN Alive	Select to enable the Keep DN Alive feature.
Button Programming or Button Programming Table	Select a telephone button to which you want to attribute a feature or other button functionality.
Function	Select the type of functionality you want to assign to the button.
Value	Select feature functionality or other button programming based on the function you selected.

Deleting a template or set model

You can delete a template when it is no longer needed. You can also delete a set model from a template.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Set Templates.

Procedure steps

Step	Action
1	In the Set Templates panel, select a template, or multiple templates by selecting multiple rows while pressing the ctrl key, or select a model.
2	Click **Delete**. *You are prompted to confirm the deletion of the template or model.*
3	Click **Yes** to confirm the deletion or click **No** to cancel the deletion.

--End--

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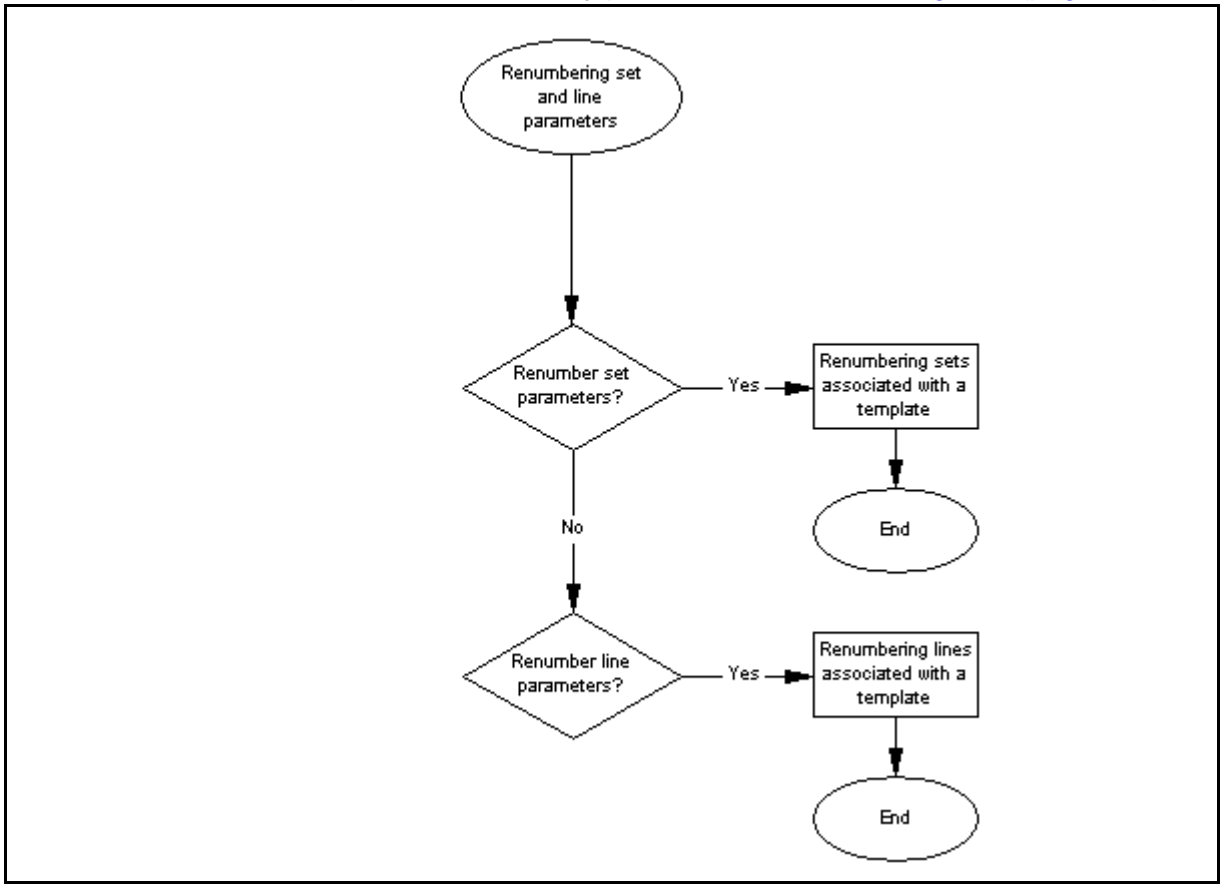
Line and set parameter renumbering

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can renumber set and line parameters, including voice mailbox DNs using the renumbering feature.

Line and set parameter renumbering procedures

This task flow shows you the sequence of procedures you perform to modify a set template. To link to any procedures, click on Navigation (page 192)



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Navigation

- Renumbering set parameters (page 192)
- Renumbering line parameters (page 193)

Renumbering set parameters

Use this procedure to quickly renumber sets and other DN attributes.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>All DNs.

Procedure steps

Step	Action
1	In the All DNs panel, click **Renumber**. The Set Renumber dialog box appears.
2	From the **Attribute** list, select the DN or other attribute you want to renumber.
3	In the **Begin DN number** field, type the number of the starting row of DNs that you want to renumber.
4	In the **End DN number** field, type the number of the last row of DNs that you want to renumber.
5	In the **New begin value** field, type the new number at which you want the identified set of DNs to start.
6	Click **OK** to confirm the new numbering or click **Cancel** to cancel the new numbering.

--End--

Variable Definitions

Variable	Value
Attribute	Select the type of DN you want to renumber (DN, Public OLI, Private OLI).
Begin DN number	Type the number of the DN at the beginning of the range of DNs you want to renumber.

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Variable	Value
End DN number	Type the number of the DN at the end of the range of DNs you want to renumber.
New begin value	Type the number at which you now want the attribute of the designated DNs to start.

Renumbering line parameters

Use this procedure to quickly renumber line attributes.

Prerequisites

- Launch Element Manager.
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Lines>All Lines.

Procedure steps

Step	Action
1	In the All Lines panel, click **Renumber**. *The Line Renumber dialog box appears.*
2	From the **Attribute** list, select the line attribute you want to renumber.
3	In the **Begin line number** field, type the number of the starting row of lines that you want to renumber.
4	In the **End line number** field, type the number of the last row of lines that you want to renumber.
5	In the **DN begin value** field, type the new number at which you want the attribute identified set of lines to start.
6	Click **OK** to confirm the new numbering or click **Cancel** to cancel the new numbering.

--End--

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Variable Definitions

Variable	Value
Attribute	Select the type of line attribute you want to renumber (Public receive number, Private receive number).
Begin line number	Type the number of the line at the beginning of the range of lines you want to renumber.
End line number	Type the number of the line at the end of the range of lines you want to renumber.
DN begin value	Type the number at which you now want the designated line attribute to start.

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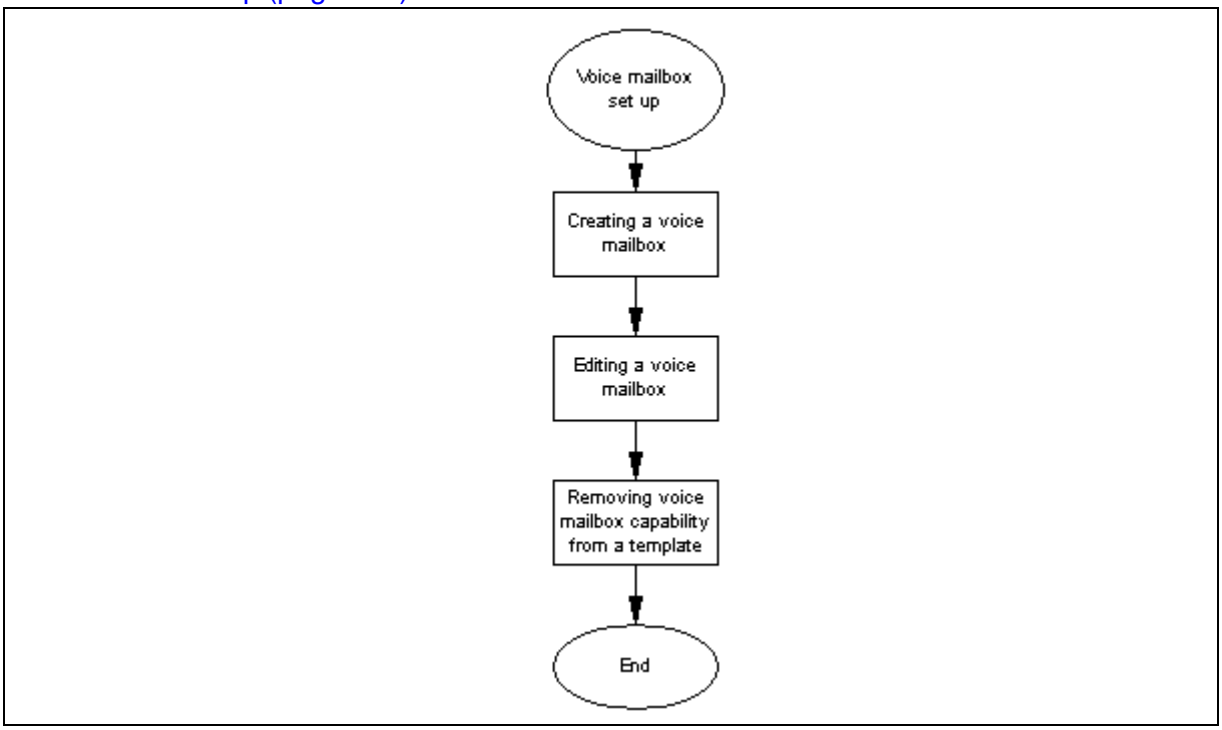
Voice mailbox set up

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

You can create a voice mailbox on a set that is associated with a particular template. The template creates Subscriber mailboxes. When you create a mailbox through the set template, you can set parameters for that mailbox through the template. The mailbox parameters appear in the Voice Mail tab for editing. The First and Last name parameters default to the template name that you used to create the mailboxes.

Voice mailbox set up procedures

This task flow shows you the sequence of procedures you perform to modify a set template. To link to any procedures, click on NavigationVoice mailbox set up (page 196)


Voice mailbox set up
Creating a voice mailbox
Editing a voice mailbox
Removing voice mailbox capability from a template
End

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Navigation Voice mailbox set up

- Creating a voice mailbox (page 196)
- Editing a voice mailbox (page 197)

Creating a voice mailbox

Create an voice mailbox from a template assigned to a set. When you modify the mailbox settings from this tab later, the changes propagate to all sets associated with that template.

Prerequisites

- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	In the Templates panel, select a template with a set to which you want to add a mailbox.
2	In the **Voice Mail** tab, click **Edit**. *The Edit Voice Mail dialog box opens with the active Create Mailbox check box.*

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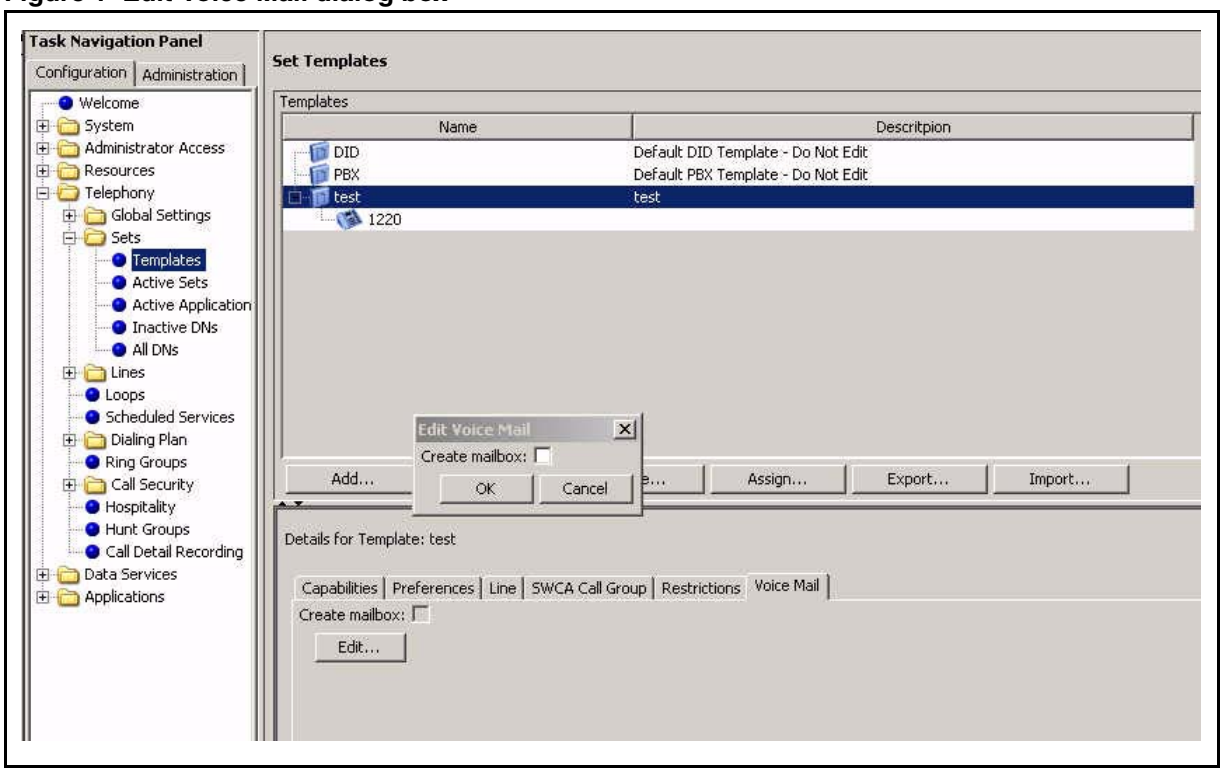
Figure 1 Edit Voice Mail dialog box



3 In the **Edit Voice Mail** dialog box, check the **Create Mailbox** check box.

The Edit Voice Mail dialog box expands to show the mailbox parameters that you can edit. The default values appear in the fields.

4 In the **Edit Voice Mail** dialog box, modify the parameter values for the mailbox (see Editing a voice mailbox (page 197)) as necessary. Any unchanged fields retain their default value.

5 Click **OK** to confirm the creation of the mailbox, or click **Cancel** to cancel the mailbox creation.

--End--

Editing a voice mailbox

You can edit voice mailbox parameters through a template that is associated with a set. When you edit the voice mailbox parameters, the changes are automatically propagated to all sets associated with the template.

Prerequisites

- Ensure CallPilot subscribers have initialized their mailboxes (refer to *CallPilot Setup and Operation Guide* [NN40160-304]).
- Launch Element Manager.

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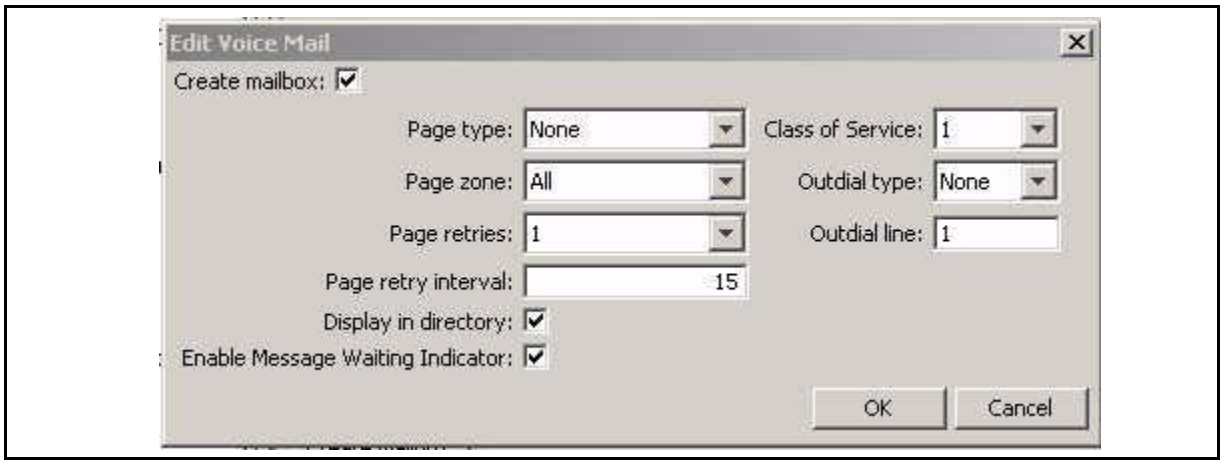
- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	In the Set Templates screen, select a template.
2	Select the **Voice Mail** tab.
3	Click **Edit**. *The Edit Voice Mail dialog box expands to show the mailbox parameters that you can edit.*

Figure 2 Edit Voice Mail dialog box with parameters



4	From the **Page type** list, select the type of paging you want the mailbox to support.
5	From the **Page zone** list, select a page zone for the mailbox.
6	From the **Page retries** list, select the number of page retries you want the mailbox to accept
7	From the **Page retry interval** list, select a time interval between page retries.
8	From the **Display in directory** list, select whether or not you want the DN to appear in a directory.
9	Select the **Enable Message Waiting Indicator** check box to enable this feature.
10	From the **Class of Service** list, select a Class of Service (CoS) for the mailbox.
11	From the **Outdial type** list, select the type of outdialing you want the mailbox to support.

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12 From the **Outdial line** list, select an outdial line for the mailbox.

13 Click **OK** to confirm the changes, or click **Cancel** to cancel the changes.

If you confirm the changes, the new mailbox settings propagate to all the sets associated with the template.

--End--

Variable Definitions

Variable	Value
Page type	The page type is the type of broadcast you want to allow users to be able to use. The values are None, Internal Zone, Overhead Paging, and Both. The default value is None.
Page zone	A page zone is any group of telephones that you grouped together for paging, regardless of their location. The values are All, 1, 2, 3, 4, 5, 6. The default value is All.
Page retries	Page retries is the number of consecutive times a user can attempt a page. The values range from 0 to 5. The default value is 1.
Page retry interval	The page retry interval is the number of seconds you want to allow between page attempts. The value must be a number between 1 and 300 seconds. The default value is 15 seconds.
Display in directory	The directory is an internal voice list that contains the spoken names of mailbox owners with initialized mailboxes who are assigned to the directory. Select or deselect the check box to enable or disable this option. The default value is enabled.
Enable Message Waiting Indicator	The Message Waiting Indicator gives subscribers a visual indication on their telephone display when they have new messages. Select or deselect the check box to enable or disable this option. The default value is enabled.
Class of Service	Select the Class of Service (COS) that is appropriate for the mailbox. Class of Service values reduce the amount of programming you do when you add a mailbox. Select a COS when you add the mailbox and the system uses the associated values. The values range from 1 to 16. The default value is 1.
Outdial type	The Outdial type determines which line or line pool the system uses when a mailbox owner wants to use the Reply feature for replying to a message left by an external caller. The values are None, Line, Pool, and Route. The default value is None.
Outdial line	Select from the list of existing created and default templates on which to base the new template. The default value is None.

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Removing a voice mailbox

You can remove voice mailbox set up capability from a template. You cannot use the template to delete voice mailbox from a set. To delete a mailbox, you must use CallPilot Manager. For details on how to delete a mailbox, see *CallPilot Manager Setup and Operation Guide* (NN40170-300).

Prerequisites

- Connect to the Business Communications Manager.
- Navigate to Configuration>Telephony>Sets>Templates.

Procedure steps

Step	Action
1	In the Templates panel, select a template that has voice mailbox editing capability.
2	In the Voice Mail tab, click the **Edit** button. *The Edit Voice Mail dialog box opens.*
3	In the Edit Voice Mail dialog box, deselect the **Create Mailbox** check box. *The Edit Voice Mail dialog box resizes to show only the Create mailbox check box.*
4	Click **OK** to confirm the removal of the mailbox, or click **Cancel** to cancel the mailbox removal. *If you click OK, the main Voice Mail tab no longer shows the voice mailbox parameters.*

--End--

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DMC feature list arrangement

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

This section describes how to use the Digital Mobility Controller (DMC) Feature List to arrange the order of the features that appear as soft keys on a Digital Mobility 7420/7430/7440 handset. This is a system-wide feature that enables users to access frequently used features.

The following paths indicate where to access the DMC Feature List in Element Manager and in telset administration:

- Element Manager: Telephony > Global Setting > DMC Feature List
- Telset Admin: **CONFIG > System Prgrming > Featr settings > DMC feat list

The following features are available in the following default positions:

- Position 1: PARK (Call Park, F74)
- Position 2: PAGE (Page - General, F60)
- Position 3: VM (Voice mail login, F981)
- Position 4: CFAC (Call Forward, F4)
- Position 5: PKUP (Group Pickup, F75)

Procedure steps

Step	Action
1	**Click Configuration > Telephony > Global Settings > DMC Feature List.** The Digital Mobility Controller Feature List panel appears.
2	In the **Position 1** field, select the feature from the list.
3	Select the order of the features in Positions 2 through 5.

--End--

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Common procedures

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

Some common procedures are copying telephone configurations and renumbering DNs.

- Copying telephone configurations (page 203)
- Renumbering DNs (page 204)
- Recording and reporting alarm codes (page 204)

Copying telephone configurations

The Copy command allows you to duplicate programming for a telephone, and apply it to another telephone, a range of telephones, or to all the telephones on the system. If information is copied to a record with an assigned telephone, the copy information replaces the existing settings.

Attention: Unique configurations, such as the Name, do not copy.

Procedure steps

Step	Action
1	Select **Configuration > Telephony > Sets > All DNs**.
2	Click the DN number for the record that has the settings you want to copy.
3	Click **Copy**.
4	Select the DN to which you want to apply the selected settings. Select multiple DNs by holding down the control or shift key, and clicking multiple records.
5	Click **Paste**. The Paste Set Data dialog box appears.
6	Select the check boxes for the properties that you want to copy to the new DN.

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7	Click **OK**.

--End--

Renumbering DNs

Your system auto-assigns DNs based on the hardware for digital telephones. In the case of IP telephones, you can choose to auto-assign DNs when the telephones register to the system.

When you change a DN, the DN record retains the same port number, because the telephone is not being moved physically. The original DN then assigns to the port vacated by the DN that you assign as the new DN. If you fill the DN/Port record in the Programming Records, remember to change the entries.

Two panes in Element Manager from which you can change the DN setting: Element Manager: Configuration > Telephony > Sets > Active Sets or Element Manager: Configuration > Telephony > Dialing Plan > DNs.The procedure is the same in both panes.

Procedure steps

Step	Action
1	Double-click the DN you want to change.
2	Type the number of the DN you want to assign to the set.

--End--

Recording and reporting alarm codes

An alarm telephone display shows a BCM 5.0 system alarm code when an alarm condition occurs. The installer assigns alarms to digital telephones with two-line displays. When an alarm message appears, an Alarm number and a Time are displayed.

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Procedure steps

Step	Action
1	Record the alarm number and time.
2	Call your customer service representative and report the alarm code.

--End--

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General features

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

The Business Communications Manager (BCM 5.0) has a complete list of the feature codes that can be accessed from digital and IP telephones.

Navigation

- Features: by name and activation code (page 207)
- Button programming feature (page 211)

Features: by name and activation code

The following provides a quick reference for BCM 5.0 features available by pressing the FEATURE button on M-series telephones, Business Series Terminals (BST series), and IP telephones. The following table provides feature names sorted alphabetically, and numerically by feature code.

Use the user documentation for the specific product to find out how to use the codes on each type of telephone.

Table 1 BCM feature codes

Sorted by feature name		Sorted by activation code	
Feature name	FEATURE<code>	FEATURE <code>	Feature name
Alarm time (room set)	875	0	Speed Dial - Activate
Alarm time - Cancel	#875	*0	Button inquiry
Alarm time (HS admin set)	877	1	Messages - Send
Autodial - External	*1	#1	Messages - Cancel Send
Autodial - Internal	*2	*1	Autodial - External
Auto Hold	73	2	Ring Again
Auto Hold - Cancel	#73	#2	Ring Again - Cancel
Background Music	86	*2	Autodial - Internal

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Table 1 BCM feature codes

Sorted by feature name		Sorted by activation code	
Background Music - Cancel	#86	3	Conference Call
Button inquiry	*0	*3	Memory buttons - Program
Contact Center agent login/log out	904	4	Call Forward
Contact Center agent make busy/ready	908	#4	Call Forward - Cancel
Contact Center queue status	909	*4	Speed Dial - Add, change
Call Charge Indication	818	5	Last Number Redial
Call Duration Timer	77	*501	Language - Primary
Call Forward	4	*502	Language - Alternate
Call Forward - Cancel	#4	*503	Language - Alternate 2
Call Forward to Voice Mail	984	*504	Language - Alternate 3
Call Information	811	*510	Time zone readjust (IP telephones)
Call Log - Delete items (autobumping)	815	*521 to *536	System Wide Call Appearance (SWCA)
Call Log - Manual	813		
Call Log - View information	812	*537	Find oldest SWCA
Call Log options	*84	*538	Find newest SWCA
Call Log password	*85	*550	Silent Monitor
Call Park	74	*6	Ring Type
Call Queuing	801	60	Page
Camp-on	82	61	Page - Internal (telephone speakers)
Class of Service	68	62	Page - External (external speakers)
Conference Call	3	63	Page - Combined (internal and external)
Contrast adjustment	*7	64	Line Pool
Contact Center agent login/log out	904	65	Messages - View
Contact Center Supervise	905	66	Voice Call
Contact Center Supervisor Help	906	67	Saved Number Redial
Dialing Mode	*82	68	Class of Service

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Table 1 BCM feature codes

Sorted by feature name		Sorted by activation code	
Directed Pickup	76	69	Priority Call
Display Voice Mail DN, Meet Me Conferencing DN, or skillset DN	985	*7	Contrast adjustment
Do not Disturb	85	70	Transfer
Do not Disturb - Cancel	#85	#70	Transfer - Cancel
Exclusive Hold	79	71	Link
Voice Mail Leave Message	980	73	Auto Hold
Group Listening	802	#73	Auto Hold - Cancel
Group Listening - Cancel	#802	74	Call Park
Group Pickup	75	75	Group Pickup
IP Services list	*900	76	Directed Pickup
IP Hot desking	*999	77	Call Duration Timer
Language - Primary	*501	78	Pause
Language - Alternate	*502	79	Exclusive Hold
Language - Alternate 2	*503	*80	Ring Volume
Language - Alternate 3	*504	*81	Line buttons - Move
Last Number Redial	5	82	Camp-on
Line buttons - Move	*81	*82	Dialing Mode
Line Pool	64	83	Privacy (on/off)
Line Redirection	84	84	Line Redirection
Line Redirection - Cancel	#84	#84	Line Redirection - Cancel
Link	71	*84	Call Log options
Long tones	808	85	Do not Disturb
Malicious call identification (MCID)	897	#85	Do not Disturb - Cancel
Meet Me Conferencing	930	*85	Call Log password
Messages - Send	1	86	Background Music
Messages - Cancel Send	#1	#86	Background Music - Cancel
Messages - View	65	88	Voice Call Deny
Name and number blocking	819	#88	Cancel Voice Call Deny
Name and number blocking - Cancel	#819	800	Trunk Answer
Page	60	801	Call Queuing

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Table 1 BCM feature codes

Sorted by feature name		Sorted by activation code	
Page - Combined (internal and external)	63	802	Group Listening
Page - External (external speakers)	62	#802	Group Listening - Cancel
Page - Internal (telephone speakers)	61	803	Time
Pause	78	804	Wait for dial tone
Priority Call	69	805	Test telephone display
Privacy (on/off)	83	806	Static Time
Record call	989	#806	Static Time - Cancel
Ring Again	2	807	Ringing (Signal) Call
Ring Again - Cancel	#2	808	Long tones
Ring Type	*6	811	Call Information
Ring Volume	*80	812	Call Log - View information
Ringing (Signal) Call	807	813	Call Log - Manual
Room condition (Room set)	876	815	Call Log - Delete items (autobumping)
Room condition (HS admin set)	878	818	Call Charge Indication
Room occupancy	879	819	Name and number blocking
Run/Stop	*9	#819	Name and number blocking - Cancel
Saved Number Redial	67	870	View active services
Silent Monitor	*550	871	Turn Ringing service on
Speed Dial - Add, change	*4	#871	Turn Ringing service off
Speed Dial - Activate	0	872	Turn Restriction service on
Static Time	806	#872	Turn Restriction service off
Static Time - Cancel	#806	873	Turn Routing service on1
System Wide Call Appearance (SWCA)	*521 to *536	#873	Turn Routing service off
		875	Alarm time
Find available SWCA	*520	#875	Alarm time - Cancel
Find oldest SWCA	*537	876	Room condition (Room set)
Find newest SWCA	*538	877	Alarm time (HS admin)
Test telephone display	805	878	Room condition (HS admin)

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Table 1 BCM feature codes

Sorted by feature name		Sorted by activation code	
Time	803	879	Room occupancy
Time zone adjust (IP telephones)	*510	897	Malicious call identification (MCID)
Transfer	70	*9	Run/Stop
Transfer - Cancel	#70	*900	IP Services list
Transfer to mailbox	986	904	Contact Center agent login/ log out
Trunk Answer	800	905	Contact Center Supervise
Turn Restriction service off	#872	906	Contact Center Supervisor Help
Turn Restriction service on	872	907	Contact Center Activity Code
Turn Ringing service off	#871	908	Contact Center agent make busy/ready
Turn Ringing service on	871	909	Contact Center queue status
		930	Meet Me Conferencing
Turn Routing service off	#873	980	Voice Mail Leave Message
Turn Routing service on1	873	981	Voice Mail login
View active services	870	982	Voice Mail Operator settings
Voice Call	66	984	Call Forward to Voice Mail
Voice Call Deny	88	985	Display Voice Mail DN, Meet Me Conferencing DN, or skillset DN
Voice Call Deny - Cancel	#88		
Voice Mail direct	988	986	Transfer to mailbox
Voice Mail Interrupt	987	987	Voice Mail Interrupt
Voice Mail login	981	988	Voice Mail direct
Voice Mail Operator settings	982	989	Record call
Wait for dial tone	804	*999	IP Hot desking

Button programming feature

The following describes the features available for Button Programming (**Configuration > Telephony > Sets > All DNs > Capabilities and Preferences > Button Programming**).

Note that some of these features require other system settings in order to work.

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- Some of the buttons are controlled by features under **Configuration > Telephony > Sets > All DNs > Capabilities and Preferences > Capabilities tab (bottom panel)**. Paging is an example of a feature that requires other settings.
- Some features also require that the service be available on the line from your telephone service provider. The types of lines provided are also determined by the region chosen for your system. MCID (malicious call identification) is an example of this type of feature

Table 2 Button programming features

Set command (FEATURE <code>)	**Feature**	**Description**
	None	Indicates a button that is configured for button programming, but nothing has been entered.
0	Speed dial	Activates the speed dial feature. The telephone prompts the user for a speed dial code.
1	Send message	Allows the user to send a message to another DN on the system.
#1	Cancel send message	Allows the user to cancel a message that was sent to another set within the network.
2	Ring again	Turns on the Ring again feature.
3	Conference/ Transfer	Initiates a conference between user and two parties.
4	Call forward	Allows the user to enter a number to forward all calls. **Note: Allow redirect** must be selected to forward calls outside of the system.
5	Last number redial	Causes set to redial the last number that was dialed.
*5	Language choice	Allows the user to select the language in which prompts are displayed.
60	Page - general	Initiates a page.
61	Page - Internal	Allows the user to page internal to a specific zone, which is identified within the Button programming. (For example F611 internal zone 1, F610 page internal all zones.)
62	Page - External	Allows the user to page through the speaker on a specific telephone.
63	Page - speaker and zone	Allows the user to page through both the internal sets, and externally connected paging equipment to a specific zone, which is identified within Button programming.

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Table 2 Button programming features

Set command (**FEATURE** <code>)	Feature	Description
64	Line pool	Allows the user to access a line pool. The pool this button accesses is specified during Button Programming for this feature.
65	Reply message	Allows the user to access messages, and send a reply to the message sender.
#65	Cancel message waiting	Allows the user to cancel the message waiting indicator.
66	Voice call	Allows the user to make an announcement, or begin a call through the speaker of another telephone.
67	Saved number redial	Allows the user to redial a number that was saved while on a call.
68	Restriction override	Allows the user to override any restrictions on the set or line with a CoS password.
69	Priority call	Allows the user to priority call an internal DN that is currently busy.
*7	Contrast	Allows the user to adjust the contrast of the display screen.
70	Transfer	Allows the user to transfer an existing call to another telephone or external number.
71	Link	Activates the Link command, which allows the user to access special features on a remote PBX system.
74	Call park	Allows the user to park a call.
*520	Find available SWCA key	System searches for a free SWCA key among the SWCA keys that are assigned to the current telephone.
*521 to *536	System Wide Call Appearance (1 to 16)	Non-intercom calls are associated with an available SWCA key when the call is answered, originated, or placed on Hold. Features that interact with this feature: Hold, telephone keys, outgoing and incoming calls.
*537	Find oldest SWCA call	System searches among the SWCA keys assigned to the telephone, and unparks the call that has been parked the longest.
*538	Find newest SWCA call	System searches among the SWCA keys assigned to the telephone, and unparks the most recently parked call.
*550	Silent monitor	Allows the user to monitor hunt group calls. (Telephone must be assigned with SM supervisor.)
75	Group pickup	Allows the user to answer a call ringing telephone within the Pickup group.

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Table 2 Button programming features

Set command (**FEATURE** <code>)	Feature	Description
76	Directed pickup	Allows the user to answer any ringing telephone within the same system.
77	Call timer	Allows the user to see the call duration timer.
78	Pause	Allows the user to insert a pause during a dialing sequence.
79	Exclusive hold	Allows the user to place a call on hold at the current telephone. All appearances of the call on other telephones indicate the line is busy.
800	Trunk answer	Allows the user to answer a ringing line while in a ringing service. (If enabled).
801	Call queuing	Allows the user to answer calls in order when several calls arrive in rapid succession. Calls are presented in this order: incoming calls, timed-out forwarded calls, then camped calls.
802	Group listening	Activates the speaker on the set to allow a group of people to hear a call. But the user must talk to the caller through the handset.
803	Time	Briefly displays the current time.
804	Wait for dialtone	Places a pause in a dialing string that holds the following digits until a dialtone is perceived on the line.
806	Static date and time	First line displays the date and time.
807	Ringing (Signal) call	Directly rings another telephone inside the system when an extension is entered after the feature is selected. This is the same process as pressing an intercom button and dialing an extension.
808	Long tones	Allows the user to send long DTMF tones.
811	Call information	Allows the user to view information about a current call.
812	Call log - view information	Allows the user to view call log information.
813	Call LogIt	Allows the user to add the current call to the call log manually.
815	Call logs autobumping	Allows the user to select if the system will remove the oldest log item manually when the log space fills.
818	Call charge indication	Allows the user to view the charges for a call (available on DASS2 and ETSI Euro trunks only).
819	ONN blocking	Allows the user to block the call information from the telephone for an outgoing call.
82	Camp-on	Allows the user to transfer and camp an external call on another telephone in the system.

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Table 2 Button programming features

Set command (**FEATURE** <code>)	Feature	Description
83	Privacy control	Allows the user to change the line privacy setting on the current call.
84	Line redirection	Allows the user to redirect a line on their telephone to an external number.
85	Do not disturb	Allows the user to block incoming calls from ringing on the telephone.
86	Background music	Allows the user to play music provided by a background music source through the speaker on the telephone.
870	Service mode status	Allows the user to view the current service mode being used.
871	Ringing service	Allows the user to change the ringing service mode.
872	Restriction service	Allows the user to change the restriction service mode.
873	Routing Service	Allows the user to change the routing service mode.
88	Voice call deny	Allows the user to deny other users from Voice Calling their set.
897	MCID	(Malicious Call Identification) Allows the user to query the system for information about a call within 25 seconds after the user hangs up, but before the caller hangs up.
*501	Language choice	Provides a menu that allows you to choose the language for the display prompts on the telephone.
*7	Contrast	Digital telephones only. Sets the level of contrast for the telephone display.
904	CC agent login/log out	Allows the user to log in or out of ACD.
905	CC supervise	Allows the CC supervisor to monitor CC agent calls.
906	CC supervisor help	Allows the CC agent to request help from a CC supervisor.
907	CC activity code	Allows the CC agent or supervisor to enter activity codes for reporting.
908	CC agent make Not ready/ready	Allows the user to indicate ready or Not ready status on ACD.
909	CC skillset status	Allows the user to view the status of queued calls on ACD.
930	Meet Me Conferencing	Allows the user to dial into a Meet Me Conference.
980	Voice mail Leave Message	Allows the user to log into voice mail box to leave a message.

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Table 2 Button programming features

Set command (**FEATURE** <code>)	Feature	Description
981	Voice mail login	Opens your mailbox to play your messages and to access mailbox options.
982	Voice mail operator settings	Allows the user to set the parameters for the voice mail operator.
984	Call forward to voice mail	Forwards all calls to your voice mail.
985	Display voice mail DN	Displays the Voice Mail, Meet Me Conferencing, or Skillset DN.
986	Transfer to mailbox	Transfers an external call directly to a mailbox on the CallPilot system.
987	Voice mail interrupt	Intercepts a caller who is listening to your mailbox greeting or leaving a message.
988	Voice mail direct	Dial an internal user via the name in the voice mail directory.
989	Record call	Record the call to your voice mail box. Must be enabled by the system administrator.
*900	IP services list	IP telephones only. Allows the user to access a feature menu. This is the same menu that is accessed by pressing the Services key.
*999	IP Hot desking	IP telephones only. Allows the user to access the Hot desking feature. This feature allows calls to be diverted from one IP telephone to another.

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Lines and DN reference

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

The following section contains reference material.

Navigation

- DN answer key levels (page 217)
- Embark validation error messages for DPNSS (UK) (page 218)
- SWCA line relabeling examples (page 218)

DN answer key levels

You can determine what type of calls alert at an assigned Answer DN key. This is a system setting, so all Answer DNs behave the same. There are three answer key levels: Basic, Enhanced, and Extended. If your system supports overflow routing of calls (for example, Hunt groups), the setting is Enhanced or Extended. Alternatively, if Contact Center telephones are assigned Answer DNs, this setting must be Basic. Do not change this setting unless you understand the impact on the other telephone groups in your system.

Table 3 DN answer key levels

Answer DN call response for:	Basic	Enhanced	Extended
Prime set call capture			X
Overflow call routing calls		X	X
Call forwarded calls			X
Ringing service calls			X
Callbacks			X
Blind transferred calls	X		X
Other answer key calls			
Answer DN call response for:	Basic	Enhanced	Extended

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Table 3 DN answer key levels

Answer DN call response for:	Basic	Enhanced	Extended
Priority calls			
Voice calls			
All other calls	X	X	X
Answer DN call response for:	Basic	Enhanced	Extended

Embark validation error messages for DPNSS (UK)

DPNSS notes (UK only): DPNSS lines connected to an Embark switch, perform call redirection using the Call Forward feature. The feature creates a tandem link back to the switch. Before you program Call Forwarding on lines on an Embark switch line, ensure that:

During telephone programming for Fwd No Answer and Fwd Busy, when you enter the Forward to digits, the system performs a validation check with the designated switch. If the validation does not succeed, the system displays one of the messages shown in the table.

- The DTM is configured to DPNSS, and the Host Node switch connection is set to Embark.
- Both real channels and virtual channels are provisioned.
- Routing code or line pool code are programmed for the DPNSS to Embark link.
- Allow redirect check box must be selected. This field is also located under the Capabilities tab.

Table 4 Embark validation error messages

Message	Description
The number is invalid or the destination has been rejected	The destination telephone has DND programmed, or it is in a programming session.
There are no free virtual channels available for validation.	Either there are not enough channels set up, or no more channels are available.
Destination may be out of service; no response received.	The system cannot connect to the remote system.

SWCA line relabeling examples

Some features, such as Page and System Wide Call Appearances (SWCA), have several variations of feature invocation that you can customize for users.

Paging can be F60, F61x, F62, and F63x. SWCA has 16 codes (*521 to *536). Table 42 shows examples of labels to which page codes and SWCA codes can be changed.

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Table 5 Relabeling examples

Feature code	New label	Feature code	New label
60	Gen Page	*521	SW Call 1
610	Pg Every	*522	SW Call 2
61	Zone <digit from 1-9>	*523	SW Call 3
62	Speak Pg	*524	SW Call 4
630	Speak, All	*525	SW Call 5
Feature code	New label	Feature code	New label

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Feature references

The information in this section applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

This section contains reference information about external call codes, Hunt Group features and the Features Settings panel.

Navigation

- External call codes and definitions (page 221)
- Hunt group feature operation (page 223)
- Feature Settings panel (page 224)

External call codes and definitions

Call code features can be part of dial strings for calls to external numbers. These codes allow various actions to occur as part of the dialing sequence. You can use special alphabetical designators in the following features when you are entering the dial strings from the Element Manager:

- hotline external number
- call forward to external numbers
- system and user speed dial numbers
- telephone and CAP button external number (auto dial)
- lines: Redirect to:
- routing dial string
- ONN block for Tone and BRI
- voice message center number

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Table 6 Call Code features

Call code	Definition
Link FEATURE **71** LN	Generate a Link signal to access a PBX or other host exchange. If you connect the system to a private branch exchange (PBX), you can use a Link signal to access special features. On some telephones, Link is called FLASH. You can include the Link signal as part of a longer stored sequence on an external autodial button, or in a speed dial code. The Link symbol uses two of the 24 spaces in a dialing sequence. (**FEATURE 71**) **Note:** This feature must be enabled under the restrictions for the telephone.
Pause FEATURE **78** P	Program within an external auto-dial sequence to insert a 1.5-second delay. This feature enters a 1.5-second delay in a dialing sequence on an external line. The use of this feature is required often for signaling remote devices, such as answering machines, or when accessing PBX features or host systems. You can program more than one pause in an external auto dial or speed dial sequence. (**FEATURE 78**) **Note:** This feature is not supported on ISDN or VoIP trunks.

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Table 6 Call Code features

Call code	Definition
Run/Stop FEATURE ***9** B	Insert a break point into a sequence of dialed numbers or characters used for automatic dialing. This is necessary when you are connecting to a PBX or similar host system. For example, if a company has an automated attendant that instructs you to dial an internal number you need, you can program the company number, a Run/Stop, then the internal number on one external autodial button. The Run/Stop symbol uses one of the 24 spaces in an autodial or speed dial sequence. You can include up to three Run/Stop commands in a dialing string. The system ignores a fourth Run/Stop, and any digits or commands that follow three Run/Stop commands in a programmed dialing sequence. Programming: There is no system programming for this feature.
Wait for dial tone FEATURE **804** DT	Program with an external auto-dial number to cause the system to wait to receive a dial tone from another system before proceeding with the dialing sequence. This feature (**FEATURE 804**) causes a sequence of numbers to pause until dial tone is present on the line before continuing to dial. You can use this feature if you must dial a remote system, and then wait for dial tone from that system before dialing the remainder of your number. The Wait for Dial Tone symbol uses two of the 24 spaces in an autodial or speed dial sequence. Programming: There is no system programming for this feature.

Hunt group feature operation

Use this feature to group your Contact Center operators so you can target specific types of calls to specific groups. As well, you can define how calls enter the group, so you can control workload based on operator requirements.

The operation of some features varies if the BCM telephone is part of a Hunt group. The following table shows the affected features.

Table 7 Hunt Group feature operation

Feature	Description
Call Forward All Calls	The system ignores Call Forward All Calls feature, and the Hunt group call rings at the telephone.
Call Forward No Answer	The system ignores Call Forward No Answer, and the Hunt group call continues to ring until the hunt time expires.
Call Forward on Busy	The system ignores Call Forward on Busy and the Hunt group call continues to ring until the hunt time expires.

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Table 7 Hunt Group feature operation

Feature	Description
Do not Disturb on Busy	If this feature is active, the set does not receive notification of incoming Hunt group calls.
Group Pickup	If a set is part of a Hunt group and a call pickup group, then an incoming Hunt group call can be picked up from any set that is in the call pickup group.
Transfer via Hold	The system supports transfer for Hunt group sets. However, you cannot Transfer by using Hold. Once you answer a call on a Hunt group set, the Hunt group notification disappears from all other sets in the Hunt group.
Priority Call	You cannot make Priority calls to Hunt group DNs.
Ring Again	You cannot use Ring Again when calling a Hunt group DN.
Line Redirection	The Allow redirect attribute must be selected for DNs assigned to Hunt groups.
Page Zones	You cannot include Hunt group DNs in a Page zone.
Voice Call	Hunt groups cannot accept voice calls. Answer buttons have no appearances for voice calls, and the set does not ring.
Feature	Description

Feature Settings panel

There are a number of settings that define telephony operation for the entire system. These have been gathered on one panel, separated into sections. They affect different aspects of how various features act, or if they are allowed on the system.

The following paths indicate where to access global telephony settings in Element Manager and through Telset Administration:

Element Manager: Configuration > Telephony > Global Settings > Feature Settings

Telset interface: **CONFIG > System Prgrming > Featr settings

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Figure 3 Feature settings

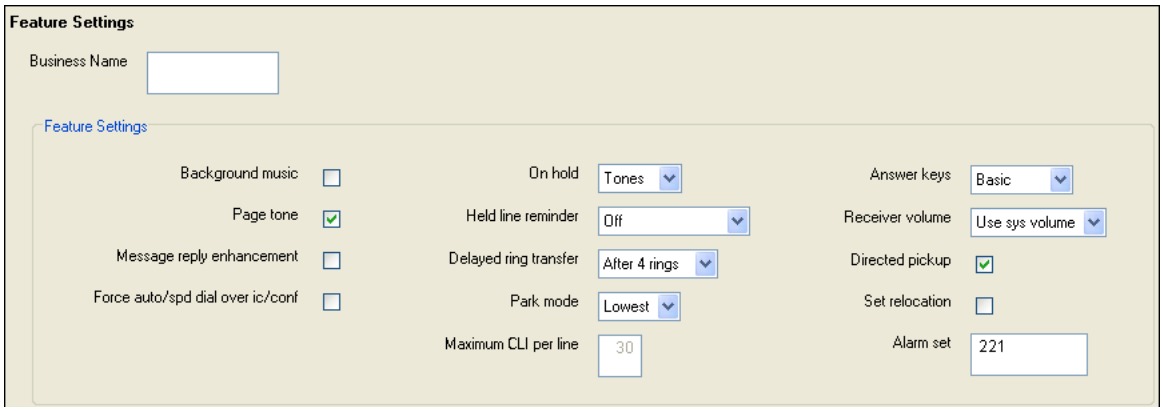

Table 8 Feature settings

Attribute	Value	Description
Business Name	<maximum of 8 alphanumeric characters>	Enter the name to display on outgoing calls.
Feature Settings		
Background music	<check box>	Select the check box to enable the caller to listen to music through your telephone speaker after pressing **FEATURE 86** on your telephone. A music source must be connected to system. Default: Cleared
Page tone	<check box>	Select the check box to sound a tone on the sets, before a page begins. **Note**: This tone is not heard over external page ports. Default: Selected

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Table 8 Feature settings

Attribute	Value	Description
Message reply enhancement	<check box>	Select the check box to enable users to automatically deactivate the message waiting indicator on analog telephones connected to an analog station media bay module (ASM), if the reply call from the analog telephone to the direct dial telephone is answered. Any telephone can answer the call. This feature also functions if the user invokes the Call pickup feature to answer the reply call from the analog telephone. However, it does not work with the Retrieve parked call feature. Default: Cleared **Note:** ASM (analog station modules) are not supported in all countries. **Tips:** Only direct dial telephones can send messages (using F1) to analog telephones connected to an ASM/GASM. The direct dial set must be the designated direct dial telephone for the analog telephone receiving a message.
Force auto/spd dial over ic/conf	<check box>	Determine if autodial and speed dial codes can be transmitted during an active call. This feature works during either a one-to-one call, or during a conference call. **Note:** This feature cannot be used for an ad hoc multiparty conference. If selected: When the user presses a programmed autodial or speed dial key, the system dials out the number while maintaining the current call. If cleared: When the user presses a memory key for a speed dial, the current call is automatically placed on Hold, and the second call is dialed. Default: Cleared
On hold	Silence Tones Music	Select what a caller hears on an external line when the line is put on hold. **Silence** provides no audio feedback. **Tones** provides a periodic tone. **Music** provides any signal from a source such as a radio connected to a BCM or streaming audio. Default: Tones

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Table 8 Feature settings

Attribute	Value	Description
Held line reminder	Immediate After 30 seconds After 60 seconds After 90 seconds After 120 seconds After 150 seconds After 180 seconds Off	Reminds you that an external call at your telephone is still on Hold. You periodically hear two tones from your telephone until you take the call off Hold. Default: Off **Note:** These tones can be heard by the caller.
Delayed ring transfer	Off After 1 ring After 2 rings After 3 rings After 4 rings After 6 rings After 10 rings	Defines whether unanswered external calls are forwarded automatically to a prime telephone after this timer expires. You must assign a prime telephone for this feature to operate. Default: After 4 rings

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DN records panes

The information in this chapter applies to both the BCM50 and the BCM450 platforms running BCM 5.0.

The DN record defines the specific function of each telephone within the system.

The following paths indicate where to access DN record parameters in Element Manager and through Telset Administration:

Element Manager: Configuration > Telephony > Sets > All DNs

Telset interface: **CONFIG>Terminals and Sets

Other areas of programming that affect how each telephone functions include:

- system settings
- telephone model

The DN records pane a multilayered pane with multiple tabs. Although all panes show up for all models, not all models require configuration for all panes.

The pane tabs links provide a general description of each pane and definitions of each pane field.

Navigation

- Main pane tab: common fields (page 230)
- Line Access tab (page 231)
- Line Assignment tab (page 233)
- Line Pool Access tab (page 235)
- Answer DNs tab (page 236)
- MeetMe Conferencing tab (page 237)
- Capabilities and Preferences main tab (page 238)
- Capabilities tab (page 239)

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- SWCA Call Group tab (page 242)
- Preferences tab (page 243)
- ATA Settings tab (page 246)
- IP Terminal Details tab (page 247)
- Button Programming tab (page 248)
- User Speed dial tab (page 251)
- Restrictions main tab (page 252)
- Set Restrictions tab (page 253)
- Line/Set Restrictions tab (page 254)

Main pane tab: common fields

All main pane tabs display the same first three columns listed in the following table.

Table 9 Common columns for the main tabs

Attribute	Value	Description
DN	<numeric>	This number is unique to each telephone record. The number identifies the telephone to the system. DN start digits and DN length are configured during system setup. Digital and analog telephone DNs map one-to-one with ports on module connections. IP telephone DNs do not map to specific ports; however, a keycode is required to activate the feature.
Model	Analog sets TDM sets: T7000/M7000, T7100/ M7100, T7208/M7208, T7316/M7310, M7324, T7316e, DMC Portable, Doorphone IP sets: 1140E/2004/2007/2050/ 221x, 1120E/2002, 1110/ 2001/2033, 1230, 1220, 1210	This heading appears for telephones in the digital DN range, from the Start DN (default: 221). Choose the setting that is appropriate for the telephone you want to configure. This field is read-only if the telephone is already attached or registered to the system. 7310/7316: also 7406 cordless digital phone 7316E: also for 7316E digital phone with KIMs (Model 7000 phones are supported in Europe only)
Name	<up to seven alphanumeric characters>	Use this field to provide a more specific description of the telephone, such as the last name of the user, the location, or the actual extension number if it is different than the DN number.

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Line Access tab

The Line Access tab displays the System DNs table. Line access programming is performed using the three tabs in the bottom panel.

Figure 4 System DNs table

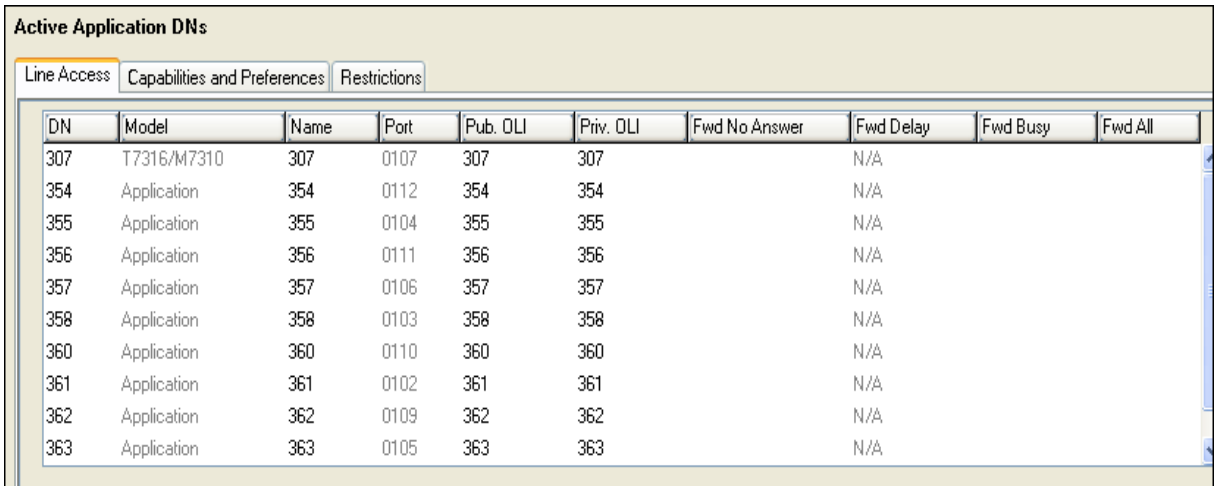
Active Application DNs
Line Access
Capabilities and Preferences
Restrictions
DN
Model
Name
Port
Pub. OLI
Priv. OLI
Fwd No Answer
Fwd Delay
Fwd Busy
Fwd All
307 T7316/M7310 307 0107 307 307 N/A
354 Application 354 0112 354 354 N/A
355 Application 355 0104 355 355 N/A
356 Application 356 0111 356 356 N/A
357 Application 357 0106 357 357 N/A
358 Application 358 0103 358 358 N/A
360 Application 360 0110 360 360 N/A
361 Application 361 0102 361 361 N/A
362 Application 362 0109 362 362 N/A
363 Application 363 0105 363 363 N/A

Table 10 Line Access - System DNs table fields

Attribute	Value	Description
DN	<read-only>	See Main pane common fields.
Model	<alphanumeric>	See Main pane common fields.
Name	<alphanumeric>	See Main pane common fields.
Port	<port number>	This number indicates the port number to which this DN corresponds. A group of port numbers relates to a specific station module installed in your BCM 5.0. If you change the DN for a telephone, the port number remains the same. If you physically move a telephone with the relocation feature turned on, the DN transfers to the new port, and the DN for that port transfers to the vacated location.

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Table 10 Line Access - System DNs table fields

Attribute	Value	Description
Pub. OLI	<up to 12 digits>	This setting defaults to the DN of the device. The Public Network Code concatenates to the beginning of this number to create the entire public network number. The length of this number is dependent on the country requirements. This line identification number (OLI) appears on the telephone called from this telephone over the public network. Also refer to. North America: If the OLI contains the public network code, the information in the Public Network code field is ignored. Therefore, it is recommended that OLIs be programmed to the public received number length, only. This allows a global change if the Public Network Code is changed.
Priv. OLI	<numeric>	Define the originating line identification number (OLI) that appears on the telephone being called from this telephone over a private network. **Note:** On systems running DID, this field is populated automatically with the DN. On PBX systems, this field is populated automatically only if the DN length and the Received # length are the same. If the DN length or the Received # length are changed to be different from each other, this field is cleared.
*If your system allows outgoing name and number blocking, the telephone must have a valid OLI.		
Fwd No Answer	up to 24 digits	Enter the number to which you want to redirect unanswered incoming calls.
Fwd Delay	2, 3, 4, 6, 10	Define the number of rings before the system forwards an unanswered call. This heading only appears after you enter a Call Forward No Answer number and press **Enter**. Default: 4

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Table 10 Line Access - System DNs table fields

Attribute	Value	Description
Fwd Busy	up to 24 digits	Redirect incoming calls when this telephone is busy with another call.
Fwd All	up to 24 digits	This setting is the same as using **FEATURE 4** at a telephone. When this feature is active, all calls to this telephone are forwarded to the destination entered in this field. If you are forwarding calls to a remote location, ensure that you include the required destination/access codes. A user can press **FEATURE #4** to cancel this feature.

Line Assignment tab

The line assignment setting allows you to assign physical trunks and target lines to each telephone. Target lines are used as incoming only. Other lines can be used to both place and answer calls, if they are configured to do so.

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Figure 5 Line Assignment tabbed pane - Assigned LInes table

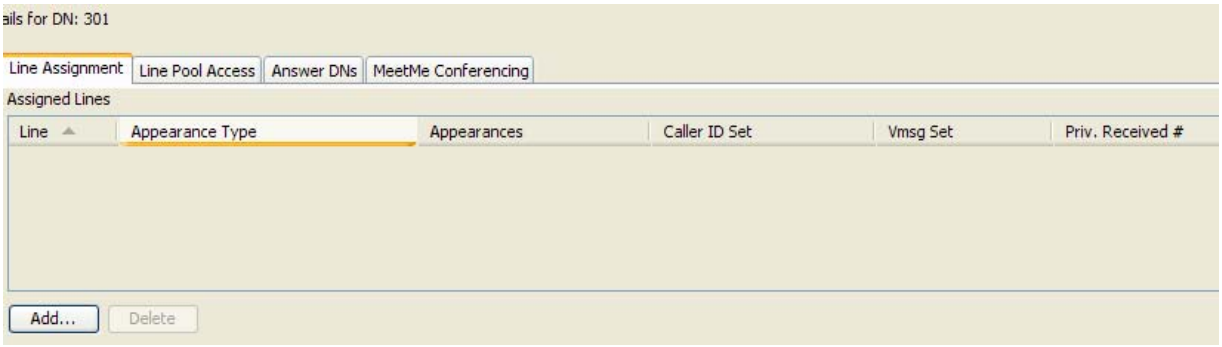

Table 11 Telephone line assignments fields

Attribute	Values	Description
Line	<read-only>	These are the lines on which this telephone can receive calls. If the line is a two-way line (DID), the user can also use the line to make calls.
Appearance Type	Ring only, Appr&Ring, Appr only	Select how a call on this line appears on the telephone. If you choose Appr&Ring or Appr only, you can have as many simultaneous DID calls as there are target line button appearances. If you choose Ring only, you can have as many simultaneous DID calls as you have intercom buttons.
		Note: The BCM 5.0 does not support a mixture of Appr only and Ring only appearances for the same line. 7000 or 7100 digital phones default to Ring only. (Model 7000 phones are supported in Europe only)
Appearances (for target lines, only)	<1-10>	Select the number of appearances of a target line. **Note:** The number of appearances that can be assigned to a telephone depends on how many buttons with indicators are available. Target line appearances cannot overwrite other line appearances, Answer DNs, Intercom buttons, or assigned Handsfree button.

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Table 11 Telephone line assignments fields

Attribute	Values	Description
Caller ID set	<check box>	This prompt only appears for target lines, and for any analog lines that provide CLID through a GATM (not all markets). When enabled, the telephone displays call information when it is available for a call before answer. When disabled, no call information is displayed for this line. Choose this setting if the telephone does not have a display, or if you do not want call information displayed to the user. Disabling this function can reduce system resource requirements.
Vmsg Set	<check box>	Select whether an indicator shows on the telephone for a voice message waiting on an external voice message system. The line must appear on the receiving telephone. **Note:** The Message Waiting Indicator (MWI) is currently supported exclusively by Meridian Mail and CallPilot and SL-100, and DMS-100. **MCDN note:** If your system is part of an MCDN network connected to a Meridian 1 system, and you are using the voice mail system off the Meridian 1, you must enable this field. Analog lines connected to legacy analog ASM station modules, and analog telephones attached to an ATA device, do not provide visible message waiting indication. Analog telephones connected to a GASM8 support message indicators, if the telephone is set up to receive them.
	Note: Contact your voice message service provider to find out if your voice message service works with BCM 5.0, or if you have any problems with your service.	
Priv. Received # (Target lines only)	These fields reflect the settings defined under target lines. These are the digit strings that the system uses to identify a call for this telephone.	
Pub. Received # (Target lines only)		

Line Pool Access tab

Use the Line Pool Access tab to add line pools to a telephone record.

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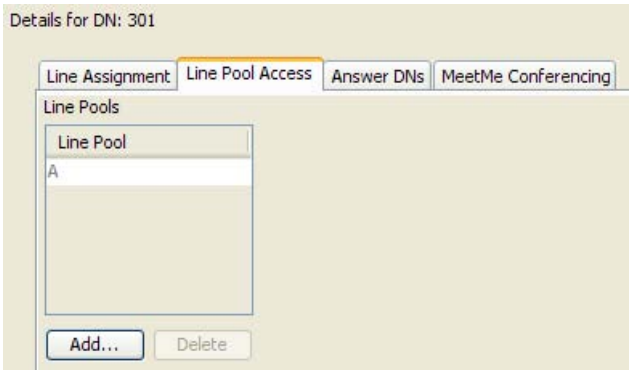
Figure 6 Line Pool Access tab



These shared pools of lines allow many users to use fewer lines for connections, where dedicated lines are not practical or not desirable. If all lines in the pool are taken, the user receives a busy signal.

Some trunks, such as PRI and VoIP, must be put into line pools. For outgoing calls, the line pools are assigned to the telephones that call out over these trunks.

All lines are configured in line pools A to O, with the following exceptions:

PRI, BRI ETSI-QSIG, and VoIP lines can only be configured into line pools BLOC-A to BLOC-F.

This is a list of available line pools. Choose the ones that provide the outgoing call access you want for the telephone. The field is read-only.

Answer DNs tab

Program a telephone to provide automatic call alerting and call answering for other telephones in the system. The DNs of the other telephones are referred to as Answer DNs.

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Figure 7 Answer DNs tab

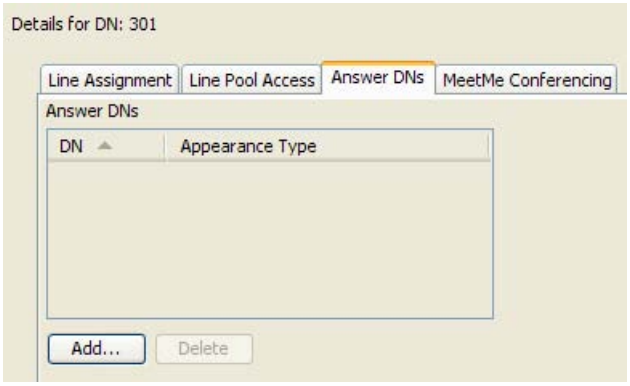

Table 12 Answer DNs

Attribute	Values	Description
DN	<DN number>	From the main panel DN list.
Appearance Type	Appr&Ring, Appr only, Ring only	Define how calls to the Answer DN will present on this telephone: Appr&Ring: Call prompt appears beside the Answer DN button, and the telephone rings. Appr only: Call prompt appears beside the Answer DN button. Ring only: Telephone rings.
Notes: Every answer DN you assign to a telephone automatically designates an appearance on the answer telephone beside a button with an indicator, if one is available. Answer DNs overwrite feature assignments to buttons with indicators. They do not overwrite line, Hunt group, intercom, or handsfree assignments. If no buttons are available on the telephone, ensure that you program the Answer DN as Ring only. In that case, when a call comes in to the other telephone, the user receives a ring tone.		

MeetMe Conferencing tab

Use the MeetMe Conferencing tab to create a conference bridge for a chairperson DN. For more information see the *Nortel Business Communications Manager 5.0 Configuration—Telephony* (NN40170-502).

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Figure 8 MeetMe Conferencing tab

Capabilities and Preferences main tab

Capabilities settings control how the system interacts with individual telephones, and how the telephones receive calls.

Preferences control how the telephone itself works. These settings also can be set by users at the telephones using feature codes.

Figure 9 Capabilities and Preferences table pane

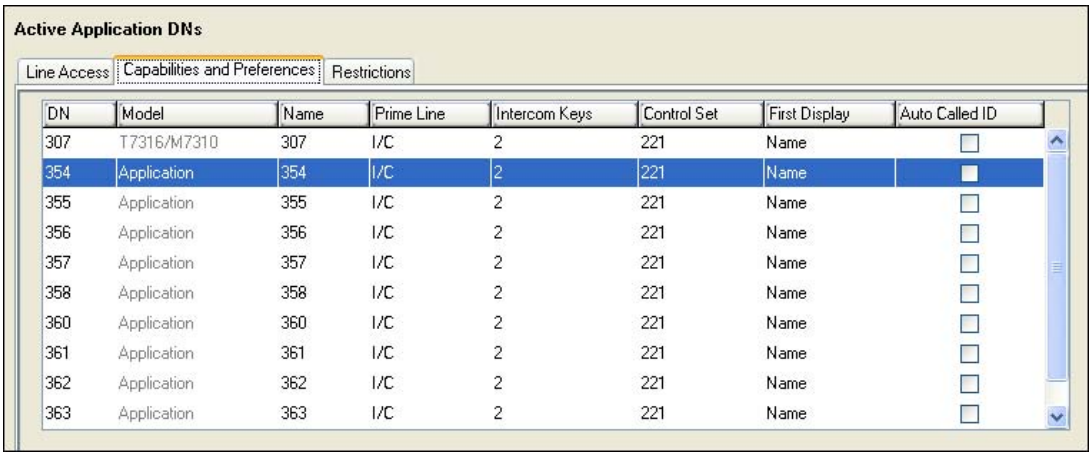
Active Application DNs
Line Access
Capabilities and Preferences
Restrictions
DN
Model
Name
Prime Line
Intercom Keys
Control Set
First Display
Auto Called ID
307 T7316/M7310 307 I/C 2 221 Name
354 Application 354 I/C 2 221 Name
355 Application 355 I/C 2 221 Name
356 Application 356 I/C 2 221 Name
357 Application 357 I/C 2 221 Name
358 Application 358 I/C 2 221 Name
360 Application 360 I/C 2 221 Name
361 Application 361 I/C 2 221 Name
362 Application 362 I/C 2 221 Name
363 Application 363 I/C 2 221 Name

Table 13 Capabilities and Preferences tabbed pane

Attribute	Value	Description
DN	<read only>	See Main Pane tab: common fields.
Model	<alphanumeric>	See Main Pane tab: common fields.
Name	<numeric>	See Main Pane tab: common fields.

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Table 13 Capabilities and Preferences tabbed pane

Attribute	Value	Description
Prime Line	None, Pool (A to O), I/C (intercom), Line: <line number>	Choose the first line that the telephone selects when a call is made. PRI Bloc pools are not valid selections for a Prime line. When you assign a line pool as a prime line, the system searches automatically for an idle line in the pool.
Intercom Keys	0 to 8	Assign the number of intercom buttons to a telephone. Intercom buttons provide a telephone with access to internal and external lines, and to line pools.
Control Set	DN: <any telephone DN> None DN:221<start DN>*	The Control telephone attribute allows you to define a DN that acts as a control telephone. A control telephone is used to enable/disable Scheduled Services, such as Restriction Services, for the telephones to which it is assigned. You can assign several control sets for your system, but you can only assign one control telephone per DN. * If you change the Start DN, this number reflects that change.
First display	Name Number Line	Determine what call display information appears first. This feature depends on the services to which you subscribe. Call Display information can contain the name of the caller, the number of the caller, the name of the line in your BCM where the call enters, or all. For each telephone, you can determine what information displays first.
	Tips: The Call Information feature displays and toggles between the name and line number for Call Display information. **Alpha tagging:** If you are using the alpha tagging feature, choose **Name**.	
Auto Called ID	<check box>	Select whether you want to see on your display the extension number and name of the telephone you call. The Auto Called ID set for target lines is the same telephone that has an appearance on that target line.

Capabilities tab

Capabilities settings control how the system interacts with individual telephones, and how the telephones receive calls.

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Attention: Not all the fields shown below necessarily appear for any one type of telephone. Some fields relate to specific models of telephones.

Table 14 Capabilities pane fields

Attribute	Value	Description
Handsfree	None Standard Auto	None: The handsfree feature is not available on all telephone models (7000 and 7100 digital phones, 2001 IP phones). Standard: The handsfree feature is activated by pressing a button on the telephone. Auto: The handsfree feature is activated when the telephone receives a call. **Note:** Handsfree must be enabled on any telephone that allows headsets. For 7316E digital phones, set **Handsfree** to **Auto**. 7406 digital cordless phone: Handsfree must be enabled for this handset to work. Speaker volume: Note that the speaker volume returns to the telephone default setting for each new handsfree call.
Pickup group	None 1 to 9	Assigns this telephone to a pickup group (a group where all telephones ring until one is answered).
Page zone	Page zone (1 to 6) None	Assigns this telephone to a page zone. A zone is any group of telephones that you want to group together for paging, regardless of their location. You can assign one of six zones to each telephone. The maximum number of digital telephones in a page zone is 50. The maximum number of digital and IP telephones in a page zone is 60.
Direct dial	Set 1 to Set 5 None	Defines whether you can call the direct dial telephone from this telephone using the direct dial digit.

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Table 14 Capabilities pane fields

Attribute	Value	Description
Intrusion Protection Level	None Low Med High	If the break-in feature is allowed on any private network MCDN lines (PRI SL-1) assigned to the telephone, you must define the level of intrusion for each telephone. This determines if the user can use the feature, and to what degree. None: feature is turned off, user cannot break in on any calls Low: user can only break into calls on other telephones with low level protection Med: user can break into calls on other telephones with low and medium-level protection High: user can break into calls on all other telephones with this feature
HF answerback	<check box>	Defines whether you can answer automatically a voice call without lifting the receiver, or pressing the Handsfree button. **Note:** The feature is not available on model, i2001,7000 and 7100 telephones. Speaker volume: Note that the speaker volume on the telephone returns to the default volume setting determined by the telephone for each new handsfree call.
DND on Busy	<check box>	Defines whether an incoming call rings if you are already on another call.
Paging	<check box>	Defines whether you can make paging announcements from this telephone.
Auto hold for incoming page	<check box>	Not selected - If the telephone is active when a page comes in, the page does not come through the telephone set. Selected - If the telephone is active when a page comes in, the call is placed automatically on hold and the page continues. Note - 7XXX digital phones: **Condition -** When this setting is enabled, an active call is on mute when the page comes in. **Results after page -** The call is taken off hold, but is no longer muted.
Priority call	<check box>	Defines whether this telephone can interrupt calls or override Do Not Disturb at another telephone.

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Table 14 Capabilities pane fields

Attribute	Value	Description
Auto hold	<check box>	This setting determines if the system automatically places an active call on hold if you answer or initiate another call. If you do not select this box, the system drops the active call, unless you press the **HOLD** button first, when you answer a call or initiate another call. Default: Selected The user can change the Auto hold setting at their telephones by pressing **FEATURE 73.** **SWCA note:** Ensure this setting is selected for any telephones with configured System Wide Call Appearance (SWCA) keys.
Allow redirect	<check box>	Define whether this telephone allows assigned lines to be redirected. This must be selected to allow call forwarding outside the network (external call forward), including calls to a centralized voice mail system over a private network.
Redirect ring	<check box>	Define whether the telephone rings briefly when a call on one of its lines is redirected by the Line Redirection feature (**FEATURE 84**).
Receive short tones	<check box>	Analog equipment, which is connected to the system with an internal or external analog terminal adapter (ATA2), responds only to tone dialing signals. Select this setting only if you have analog equipment connected to a station port.
Silent monitor supervisor	<check box>	On two-line display telephones only, you can choose whether the telephone can be used to allow the Silent Monitor feature. Select the check box to allow this feature on this telephone. See Silent Monitor for information about setting up the system settings for the Silent Monitor feature, including determining how many telephones can be allowed to use this feature.

SWCA Call Group tab

Although System-wide Call Appearance (SWCA) assignments are meant to be assigned to buttons with indicators, you can assign SWCA assignments to a telephone without assigning them to buttons using the fields on this panel. This is useful if you want to use the full range of SWCA assignments.

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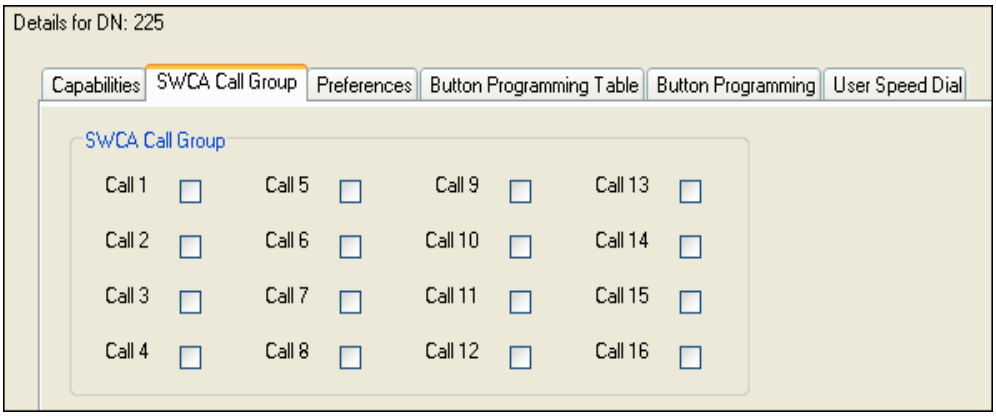
Use the SWCA Call Group tabbed panel to enable or disable Call 1 to Call 16 assignments for each sets. The administrator can configure the 16 SWCA feature codes on all the sets through administration.

Users can park or retrieve calls on any SWCA assignment, even if the call is not directly assigned to their telephone. However, the SWCA support codes (**FEATURE *520, FEATURE *537 and FEATURE *538**) only search for SWCA assignments that are assigned to the telephone where the feature is invoked. These codes are required for users who do not have buttons with indicators.

Figure 10 SWCA Call Group tab



Preferences tab

The Preferences headings allow you to program the same settings that users can perform at their telephones, and the settings for configuring a telephone as a hotline. The telset admin options are available only to digital phones and IP telephones.

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Figure 11 Preferences tab pane

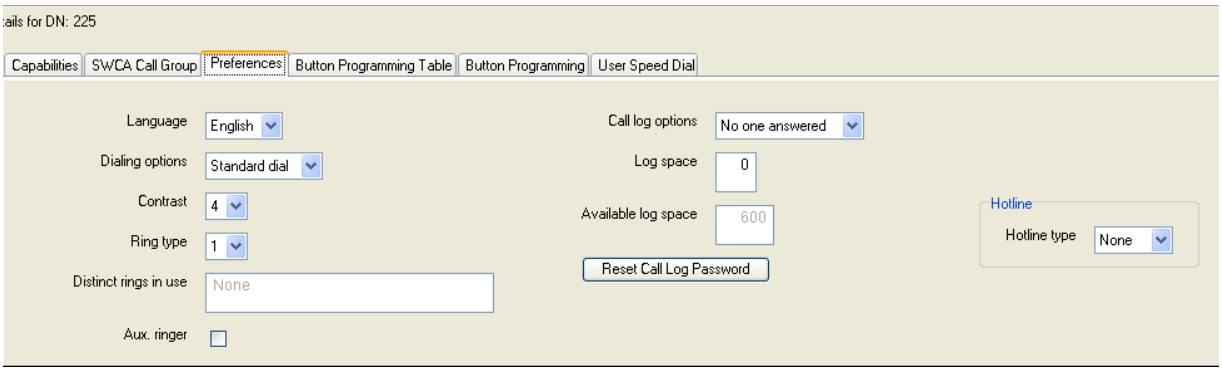

Table 15 Preferences pane fields

Setting	Values	Description
Language	Languages displayed are based on telephone capabilities and system software.	Choose the language for the telephone display prompts.
Dialing options	Standard dial Automatic dial Pre-dial	Determine how the telephone handles dialed information. Standard: Lift the receiver and dial. Automatic dial: Use for devices, such as fax machines where you want the number to dial out without external cues. Pre-dial: Dial the numbers, then lift the handset to allow the telephone to dial the number. **Note:** Not all devices show all three options.
Contrast	1 through 9	Adjust the contrast of the display.
Ring type	1, 2, 3, or 4	Select a distinctive ring pattern type for the telephone. Default is 1.
Distinct rings in use	<read-only>	Indicates the distinct ring patterns, if any, are currently in effect on any lines, telephones, or Hunt groups on the system. Refer to the Warning below. If you assign a distinctive ring pattern to a telephone, and that distinctive ring pattern has already been assigned to a line, all lines with that ring pattern will be reset to None. If you assign a distinctive ring pattern to a line, and that distinctive ring pattern has already been assigned to a telephone, all telephones with that ring pattern are reset to pattern 1. You also can assign a distinctive ring pattern to a Hunt group.

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Table 15 Preferences pane fields

Setting	Values	Description
Aux. ringer	<check box>	Determine whether an auxiliary ringer (if installed) rings for incoming calls at this telephone.
Call log options	No autologging No one answered Unanswered by me Log all calls	Select how you want the telephone to handle logging calls. No autologging: No calls are logged automatically. No one answered: Unanswered calls are logged. Unanswered by me: Unanswered calls are logged. Log all calls: All calls are noted in the call log.
Log space	<numeric>	Allocate a number of Call log spaces from a system-wide pool of spaces to the telephone.
Available log space	<read-only>	Indicate the total amount of space available for call logging on the system.
Reset Call Log Password	<button>	Reset the password for the call log if users forget their password.
Hotline type	None Internal External	This feature allows you to define a telephone number that automatically dials when you lift the handset or press the Handsfree button, on a telephone.
Internal	DN:*	Define the internal telephone you want to access.
	Direct dial set	DN:* The DN of the telephone that is automatically dialed when the user lifts the handset. Direct dial set: Automatically dials a telephone on the system defined as a direct dial telephone (direct dial access code). **Note:** If the direct dial telephone is on a remote node of the network, ensure that the correct line pools are assigned to the telephone to properly route the call.
External	External number	Enter the complete call number for the external telephone you want to access.
	Pool:A Use prime line Use routing table	Enter the line you want the call to use. (This cannot be a target line.) Pool:A Refer to the line pool assignment for this telephone. Use prime line: Refer to the General record for this telephone. Use routing table: Refer to the routing tables. The routing code for that table must be part of the External number.

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ATA Settings tab

Analog telephones have some settings that are specific to the analog connection. An analog telephone can be connected to the system directly through an analog station port, either on the Main Unit (in countries that support Main Unit Analog Stations) or through Analog Station Media Bay Modules. These settings apply only when the DN record Model field is set to Other.

Analog telephones can also be connected by using an Analog Terminal Adapter (ATA2). The digital station port can be on the main unit, or on a Digital Station Media Bay Module.

Figure 12 ATA Setting pane fields

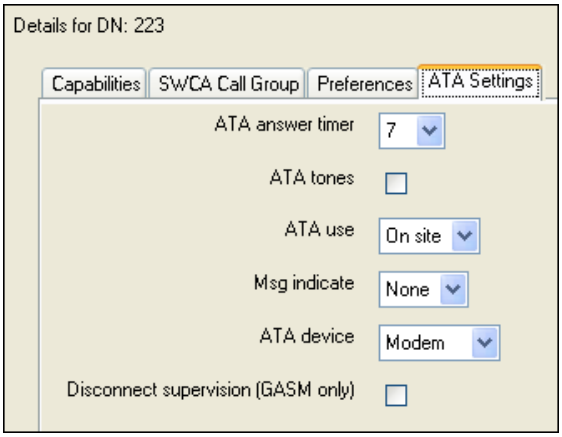

Table 16

Attribute	Values	Description
ATA answer timer	3, 5, 7, 10	Select the length of delay between the time you dial the last digit and when the analog device is ready to receive DTMF tone.
ATA tones	<check box>	Not selected: No tones occur when a message is received (use for data equipment). Selected: Tones occur when a message is received (use for analog telephones).
ATA use	On site	Select the location of the ATA2.
	Off site	**Note:** Set the field to On site for all installations, except devices on a long loop. Set the field to Off site to increase the audio level to devices that are remote to the ATA2. This field has no effect for ASM and ASM8+ devices. **Note:** OPX connections are not supported.

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Table 16

Attribute	Values	Description
Msg indicate	None	Select Tone to send a Message Tone through the telephone receiver when you receive a message.
	Tone	
	Lamp	Select Lamp to turn on the Message Lamp when you receive a message.
ATA device	Modem	Default: Modem
	Telephone	Devices connected to the system through an ATA can have connectivity issues over BRI/PRI lines. To alleviate this, you can specify the type of device attached to the analog line. **Modem** supports 3.1 kHz audio, which requires a higher quality of service on the ISDN trunks that modems and FAX machines require for reliable information transfer. If the trunks cannot provide the higher level of service, the call fails. **Telephone** supports speech paths, which require less quality on the trunk; if used for FAX and/or modem, information transfer is unreliable.
Disconnect supervision	<check box>	Default: not selected If you have a modem or fax machine that does not disconnect automatically when the caller disconnects, you can select this feature; the system then disconnects the line from the device when it receives the disconnect signal from the far end. This feature is supported by ASM8+, GASM, and GASI modules. **Note:** The line must be configured as supervised/ guarded.

IP Terminal Details tab

This is a single-terminal display of the terminal information that is also shown in the Telephony Resources IP Terminal pane.

At start-up, the BCM 5.0 acquires and retains a list of all IP terminals that have a registered DN. This allows DN-specific features, such as Call Forward, Hotdesking, and voicemail to continue to function even if the telephone is disconnected.

If the number of IP Set DNs registered with the BCM 5.0 exceeds the number of IP Client key codes applied, selecting this check box prioritizes a set.

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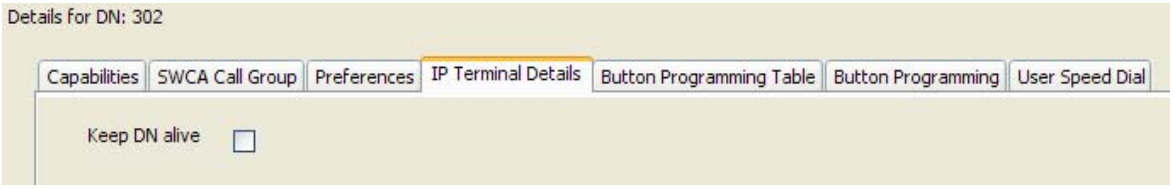
For example, if the BCM 5.0 is rebooted, and the number of IP phones exceeds the number of IP client key codes, the BCM 5.0 retains the DN record of the sets with this field selected, before retaining the DN record of a set that does not have this field selected.

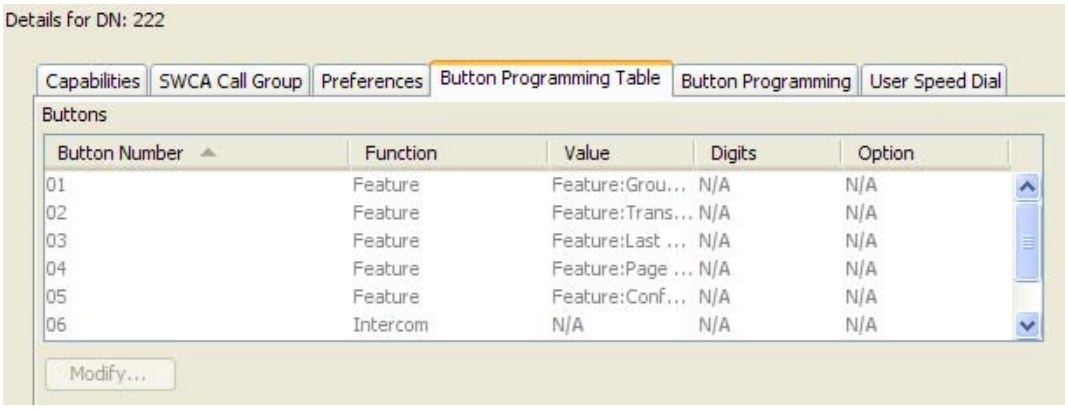
If Keep DN alive is not selected, and the IP telephone is disconnected, the DN record may become inactive if there are not enough keycodes. In this case, a Not in Service prompt is produced when special features, such as Call Forward, are invoked.

Figure 13 IP Terminal Details tab



Button Programming table

Figure 14 Button Programming table



Button Programming tab

The Button Programming and CAP/KIM Button Programming tab panels allow you to program the buttons on a telephone with internal and external autodialers, and with programmed feature keys.

You also can use these panels to remove programming from a button, making it blank.

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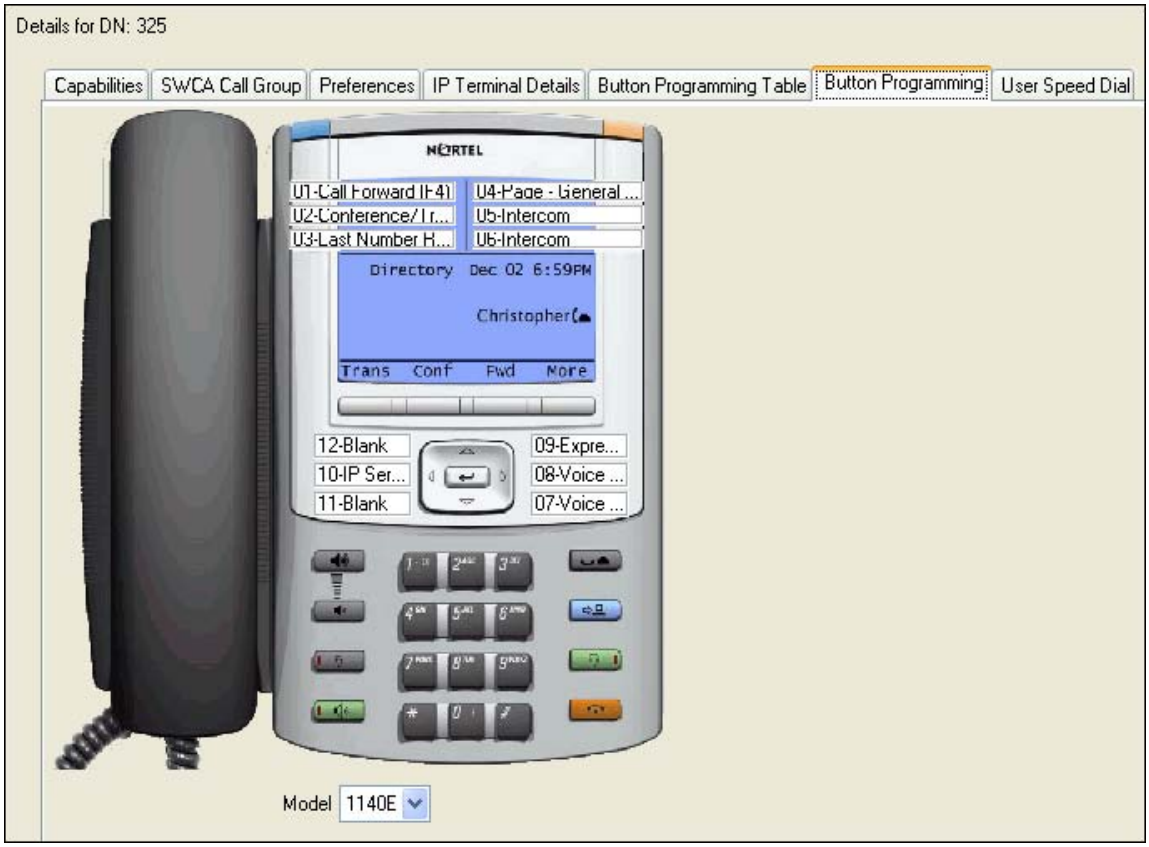
Figure 15 Button Programming and CAP/KIM Button Programming tabbed panes



Assigned lines, Hunt group designators, Answer DNs buttons, Intercom buttons, and Handsfree buttons cannot be changed through these panels. They appear in read-only format.

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Table 17 Button programming fields

Setting	Value	Description
Model	T7100/M7100 T7208/M7208 T7310/M7316 T7316E M7324 1140E/2004/2050 1110/2001 1120E/2002 1210, 1220, 1230	If you have not yet connected a telephone, choose the model of the telephone. This creates a number of defaults based on the telephone capabilities. This setting reflects whatever you set on the main table. This field is read-only if the telephone is already attached or registered to the system. 7310 also refers to the cordless 7406 cordless digital phones. IP Wireless) 7316E indicates both a stand-alone7316E digital phone and a 7316E digital phone connected to one or more KIMs (Key Indicator Modules).
	ISDN	These telephones have their own set of DN records. ISDN refers to any ISDN equipment
Button Number (1-24)	<1-XX>	Use the telephone buttons to choose the features you want to program. Blank means that nothing is programmed on the button. Example: New KIM modules have all blank buttons when they are first installed.
Function	Blank Feature Internal autodial External autodial	Choose the type of feature that you want to program on the telephone buttons. Blank means that nothing is programmed on the button. Example: New KIM modules have all blank buttons when they are first installed.
Value		
Feature	<feature code>	Use the arrow to choose the feature you want to program on the button.
Internal autodial	<Internal DN>	Enter the DN number for the internal telephone you want the telephone to dial by pressing this button.
Digits		
Feature	<feature digits>	Includes digits for such features as system speed dial codes.
External autodial	<dialing codes plus dialout string>	Enter the complete dial sequence for the external call. This sequence depends on what you chose for the route in the Value field.
Option		

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Table 17 Button programming fields

Setting	Value	Description
Feature	<feature options>	Includes settings such as page zone.
External autodial facility	Use prime line Pool Use routing table Use line	Choose the route through which the telephone dials. **Prime line**: the prime line assigned to the telephone. **Pool X**: one of the pools assigned to the telephone. **Routing table**: enter the routing code with the external phone number. **Use line X**: one of the lines assigned to the telephone.

User Speed dial tab

Speed dial numbers allow users to dial a number with fewer button presses than dialing the entire dial string.

Attention: User speed dials are only available from that users DN number.

Figure 16 User Speed Dial tab

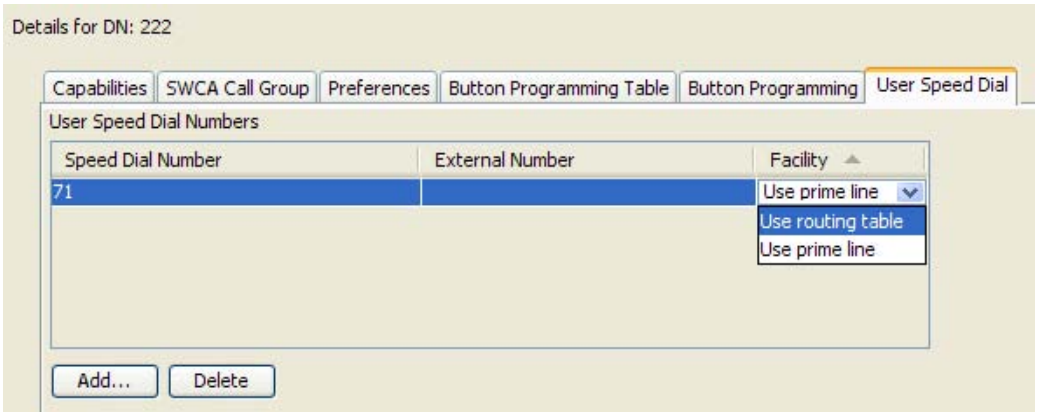

Table 18 User Speed Dial pane fields

Setting	Values	Description
Speed Dial Number	<71-94>	The number the user dials to dials out the number entered in the External # field.

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Table 18 User Speed Dial pane fields

Setting	Values	Description
External Number	<external phone number>	Enter the number the telephone automatically dials when the user speed dial code is entered. Remember to include the access codes for the route you choose.
Facility	Use prime line Use routing table	Select the route you want the dialed number to take out of your system. **Note:** Any line numbers or line pool codes that you specify must be assigned to the telephone where the code is entered. If you choose prime line, a prime line must be assigned to the telephone where the code is entered.

Restrictions main tab

The Restrictions settings allow you to control callouts of certain number combinations. These restriction filters then are assigned to lines and DN records, as required to prevent callers from making certain kinds of calls from a specific telephone, or from lines available at the telephone.

Figure 17 Restrictions table pane

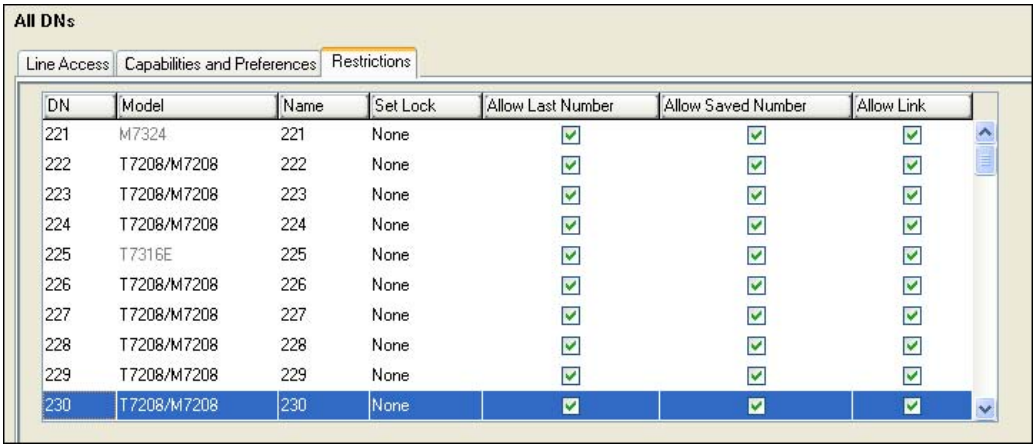

Table 19 Restrictions table fields

Setting	Value	Description
DN	<read-only>	See Main pane tab: common fields.
Model	<read-only>	See Main pane tab: common fields.
Name	<read-only>	See Main pane tab: common fields.

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Table 19 Restrictions table fields

Setting	Value	Description
Set Lock	None Partial Full	None allows access to all features. **Partial** prevents: • programming autodial buttons • programming user speed dial numbers • programming feature buttons • moving line buttons • changing the display language • changing dialing modes (Automatic, Pre-, and Standard Dial) • using Voice Call Deny • saving a number with Saved Number Redial saving a number with Saved Number Redial **Full** restricts all the Partial settings, plus: • changing background music • changing Privacy • changing Do Not Disturb • using Ring Again • using Call Forward all calls • using Send Message • using Trunk Answer • activating Services
Allow Last Number	<check box>	Allow or disallow access to the Last Number Redial feature.
Allow Saved Number	<check box>	Allow or disallow access to the Saved Number Redial feature.
Allow link	<check box>	Allow or disallow access to the Link feature, which is a host signaling option.

Set Restrictions tab

You can assign restrictions that apply to a specific telephone record. You also can assign a different restriction filter for Normal service, and for one or more of six other schedules that allows the user to have different access at different times of the day.

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Figure 18 Set Restrictions tab pane

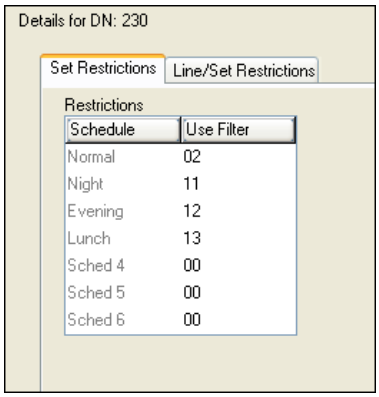

Table 20 Set Restrictions tab fields

Setting	Values	Description
Schedule	Normal Night Evening Lunch Sched 4 Sched 5 Sched 6	The Normal schedule runs when no other schedules are active. If schedules are being used, select the relevant schedule, and enter the required filter.
Use Filter	<XX>	Enter the restriction filter you want to be active for each schedule that you use.

Table 21 Schedule filter defaults

Schedule	Restriction filter defaults	Schedule	Restriction filter defaults
Normal	02	Schedule 4	00
Schedule 1 Night	11	Schedule 5	00
Schedule 2 Evening	12	Schedule 6	00
Schedule 3 Lunch	13		

Line/Set Restrictions tab

The Line/Set Restrictions settings allow you to assign a restriction filter to a specific line for outgoing calls at a specific telephone. This type of filter replaces any line or set restriction filters that can otherwise apply. Line/Set restrictions restrict the numbers the user can dial on a line, but only from that telephone. The same line on another telephone can have different restrictions.

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You can apply a different line restriction for normal service, and for each of the six schedules.

Figure 19 Line/Set Restriction pane

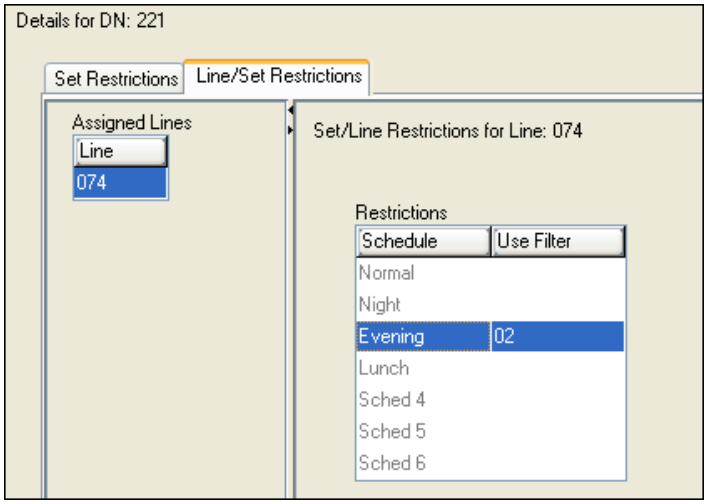

Table 22

Setting	Value	Description
Line	<XXX>	A list of lines assigned to this telephone. Define a restriction filter for each line under the schedules that you intend to use. Restriction filters are defined under Call Security.
Schedule	Normal Night Evening Lunch Sched 4 Sched 5 Sched 6	Always configure a Normal filter, as this schedule runs if there are no other schedules running. If your system is using schedules (for example, if you require different restrictions on lines at different times of the day), choose an alternate schedule that coordinates with the other programmed schedules on your system.
Use Filter	<XX>	Enter the restriction filter you want activated for this set on this line for each schedule that you use.

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Configuration — Devices

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